BIOMAG 2004

14th International Conference on
Biomagnetism

August 8 – 12, 2004

Boston, USA

Program – Guide

Biomag 2004 program

Sunday, August 8			Monday, August 9		Tuesday, August 10		Wednesday, August 11		Thursday, August 12	
1000	Satellite Symposium Registration		**Symposia**	**Workshops**	**Symposia**	**Workshops**	**Symposia**	**Workshops**	**Symposia**	**Workshops**
		800	**1-Spontaneous Activity** Bertrand	**1- DC Phenomena** Mackert	**5-Clinical MCG** Mäkijärvi	**5-MEG Generation** Okada	**9- MEG Instrumentation** Baudenbacher	**9- Electromagnetics & Hemodynamics** Schmidt	**13-Schizophrenia** Rojas	**13- Functional Connectivity** van Dijk
		950	Coffee		Coffee		Coffee		Coffee	
		1010	**2-Memory** Coppola	**2-Magnetic Particles** Brain	**6- Early Sensory Responses** Rupp	**6-To and Fro in EEG and MEG** Mosher	**10- Cortical Plasticity** Elbert	**10- Validating Inverse Methods** Puce	**14- TMS** Hallett	**14-Paced Movements** Schnitzler
		1200	Lunch **Posters** (Signal processing, MEG: Spont, Memory & Cognitive, DC, Other)		Lunch **Posters** (MCG: Clinical, MEG: Generation, Visual, Forward & Inverse Modeling)		Lunch **Posters** (Instrumentation, Multimodal Imaging, MEG: Somatosensory)		Lunch	
		1340	**3-Early Language Processing** Salmelin	**3-Perinatal MEG/MCG** Van Leeuwen	**7-Auditory Codings** Nagamine	**7-Inverse Solutions I** Hämäläinen	**11- Pain** Kakigi	**11-Action in Space** Georgopoulos	**Laboratory tours** 13:00 – 16:00	
		1530	Coffee		Coffee		Coffee			
		1550	**4- Syntax and Meaning** Friederici	**4-MCG Instrumentation** Baudenbacher	**8-Visual Attention and Integration** Hopf & Heinze	**8-Inverse Solutions II** Hämäläinen	**12- Epilepsy** de Munck	**12-High Frequency** Hashimoto		
1830	Reception	1740	**Posters** (MEG: Language, Fetal MEG/MCG, MCG: Modeling & Basic)		**Posters** (MEG: Auditory, Inverse Modeling)		**Posters** (MEG: Motor, Epilepsy, Neurology, and Psychiatry, TMS)			
		1900	Break		Wine and cheese		Break			
		1910	Free evening		Historical Symposium / Business Meeting		Conference Buffet Dinner / Young IA			

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Conference co-chairmen

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Matti Hämäläinen

Founding chairman

Jack Belliveau

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www.kri-inc.jp/sensing/index.html

ANT Software b.v.
http://www.ant-software.nl/

Siemens Medical Solutions
www.siemensmedical.com

Symposium 1: Spontaneous activity
chair: Olivier Bertrand

8:00 O. Bertrand (Lyon, France)
Introductory remarks

8:05 R. Ishii (Osaka, Japan)
SAM localization of the oscillatory MEG activities in human brain

8:30 M.J. Kahana (Philadelphia, Pennsylvania, USA)
The neurophysiology of human spatial navigation

8:55 E. Düzel (Magdeburg, Germany)
Multivariate analyses of oscillatory responses of declarative memory and their relationship to event-related fields

9:20 C. Schroeder (New York, USA)
EEG oscillatory phase, its effects on sensory processing and its modulation by attention

9:45 General discussion

Symposium 2: Working memory
chair: Richard Coppola

10:10 J. Callicott (Bethesda, Maryland, USA)
Working memory: physiological characteristics of prefrontal information processing as revealed by BOLD fMRI

10:35 R. Coppola (Bethesda, Maryland, USA)
MEG activation comparison to fMRI BOLD for a working memory task

11:00 S. Asloun (Garches, France)
Working memory impairments after severe traumatic brain injury: What does MEG reveal

11:25 J. Lewine (Kansas City, Kansas, USA)
Neuromagnetic correlates of memory dysfunction: Lessons from the clinic

11:50 General discussion

America Ballroom North

Workshop 1: DC Phenomena
chair: Bruno Mackert

8:00 D. Cohen (Cambridge, Massachusetts, USA)
DC magnetic fields from the human body generally: A historical overview

8:25 B. Weiland (Detroit, Michigan, USA)
Imaging DC MEG fields associated with epileptic onset in rat

8:40 S. Bowyer (Detroit, Michigan, USA)
Spreading cortical depression (SCD) from Pathophysiology: Can we detect signals non-invasively using DC-MEG?

9:05 B.-M. Mackert (Berlin, Germany)
The discovery of slowness – recent progress in DC-MEG research

9:30 T. Sander (Berlin, Germany)
Concurrent DC-magnetoencephalography and near-infrared spectroscopy for the study of slow brain activity

9:45 General discussion

Workshop 2: Magnetic particles
chair: Joseph Brain

10:10 J. Brain (Boston, Massachusetts, USA)
Magnetic particles in cells, animals and humans: Past, present, and future

10:35 B. Fabry (Erlangen, Germany)
Forcing magnetic particles in cells: A powerful tool for studying cell mechanics

11:00 N. Wang (Boston, Massachusetts, USA)
Magnetic microbeads and intra-cellular stress tomography

11:25 J. Fredberg (Boston, Massachusetts, USA)
Microrheology of the living cell: Are we built of glass?

11:50 General discussion

America Ballroom Center

Symposium 3: Early stages in language processing

chair: Riitta Salmelin

13:40 D. Poeppel (College Park, Maryland, USA)
From vibration in the ear to abstraction in the head: early auditory analysis

14:05 C. Eulitz (Konstanz, Germany)
Perception and representation of speech-specific information

14:30 H. Renvall (Espoo, Finland)
Sensory processing in dyslexia

14:55 R. Salmelin (Espoo, Finland)
Early cortical processes in fluent and impaired reading

15:20 General discussion

Symposium 4: Syntax and meaning

chair: Angela D. Friederici

15:50 A. D. Friederici (Leipzig, Germany)
The relative timing of syntactic and semantic processes during language comprehension

16:00 F. Pulvermüller (Cambridge, United Kingdom)
Early lexical and syntactic processing as revealed by the mismatch negativity: lMMNm and sMMNm

16:20 A. Marantz (Cambridge, Massachusetts, USA)
Lexical access and beyond: The M350

16:40 K. Marinkovic (Charlestown, Massachusetts, USA)
Semantic processing of words and sentences

17:00 B. Rockstroh (Konstanz, Germany)
Representation of meaning in the brain

17:20 General discussion

America Ballroom North

Workshop 3: Towards clinical application of perinatal MCG/MEG

chair: Peter van Leeuwen

13:40 R. Wakai (Madison, Wisconsin, USA)
Perinatal MCG/MEG: What have we achieved to date?

14:03 E. Schleußner (Jena, Germany)
Fetal and newborn magnetoencephalography

14:21 T. Hosono (Osaka, Japan)
Current-arrow maps in fetal magnetocardiography: A clinically useful tool in fetal cardiology

14:39 P. Van Leeuwen (Bochum, Germany)
Fetal magnetocardiography: Time intervals and heart rate variability

14:57 N. Sreeram (Cologne, Germany)
Fetal magnetocardiography: The clinician's viewpoint

15:20 General discussion

Workshop 4: MCG instrumentation, modeling, and signal processing

chair: Franz Baudenbacher

15:50 F. Baudenbacher (Nashville, Tennessee, USA)
Magnetic imaging of action currents and potentials reveal the bidomain properties in cardiac tissue

16:13 E. Costa Monteiro (Rio de Janeiro, Brazil)
Effects of imaging area in the identification of electrical propagation in atrial tissue using a multichannel SQUID system

16:30 J. Campbell (Little Rock, Arkansas, USA)
Separation of normal and ectopic FMCG rhythms using independent component analysis

16:47 A. Brazdeikis (Houston, Texas, USA)
Changes in magnetocardiogram patterns of infarcted-reperfused myocardium after injection of superparamagnetic contrast media

17:04 H. Nowak (Jena, Germany)
Noise reduction for the vector-MCG-device ARGOS 200

17:22 M. Burghoff (Berlin, Germany)
Discrimination of multiple sources using a SQUID vector magnetometer

America Ballroom Center

Symposium 5: Clinical MCG

chair: Markku Mäkijärvi

8:00 D. Brisinda (Rome, Italy)
Clinical multichannel MCG in unshielded hospital environment

8:25 B. Hailer (Essen, Germany)
Detection of coronary artery disease with MCG

8:50 R. Koskinen (Helsinki, Finland)
MCG studies on atrial electric activity in lone atrial fibrillation

9:15 S. Yamada (Tsukuba, Japan)
Prognostic significance of MCG in patients at risk of atrial fibrillation and heart failure

9:40 General discussion

Symposium 6: Short-latency sensory responses

chair: Andre Rupp

10:10 Y.-Y. Lin (Taipei, Taiwan)
Electromagnetic and functional characterization of the earliest somatosensory cortical responses in humans

10:35 J. Stephen (Albuquerque, New Mexico, USA)
Finding the fast pathways through the visual system: MEG's contributions

11:00 A. Rupp (Heidelberg, Germany)
Middle latency auditory evoked fields reflect dispersion effects in the cochlea

11:25 M. Steinschneider (Bronx, New York, USA)
Intracranial responses in auditory cortex of the monkey and human: Potential impact on interpretation of MEG

11:50 General discussion

America Ballroom North

Workshop 5: Intrinsic and synaptic currents in MEG generation

chair: Yoshio Okada

8:00 S. Murakami (Albuquerque, New Mexico, USA)
Generating mechanisms of MEG and EEG signals at the single cell level in hippocampus and neocortex revealed by computational models

8:25 F. Amzica (Quebec, Canada)
Generation of corticothalamic oscillations

8:50 I. Ulbert (Budapest, Hungary)
Synaptic/trans-membrane and cellular properties of paroxysmal events in the human neocortex

9:15 R. Traub (Brooklyn, New York, USA)
A single-column thalamocortical network model exhibiting gamma (30-70 Hz), epileptic bursts and spindles

9:40 General discussion

Workshop 6: To and Fro in EEG and MEG

chair: John Mosher

10:10 J. Mosher (Los Alamos, New Mexico, USA)
Introduction: A review of the theoretical power of combining EEG and MEG

10:20 J. Haueisen (Jena, Germany)
Anisotropic conductivity influences EEG/MEG source reconstruction

10:45 C. Wolters (Salt Lake City, Utah, USA)
Efficient computation of lead field bases and influence matrix for the FEM-based EEG and MEG inverse problem

11:10 J. Mosher (Los Alamos, New Mexico, USA)
A review on the importance of volume currents

11:35 F. Darvas (Los Angeles, California, USA)
Generic head models for atlas-based EEG-source analysis

Symposium 7: The role of auditory coding in auditory processing

chair: Takashi Nagamine

13:40 T. Fujioka (Toronto, Canada)
Static and dynamic representation of complex sounds: from tonotopy to musical notes

14:05 T. Raij (Charlestown, Massachusetts, USA)
Sounds of one hand clapping

14:30 A. Gutschalk (Boston, Massachusetts, USA)
Specificity for pitch and other sound features in subdivisions of human auditory cortex?

14:55 T. Nagamine (Kyoto, Japan)
Plastic change of auditory coding:
Effect of hearing loss and developmental change

15:20 General discussion

Symposium 8: Visual attention and integration

chairs: Jens-Max Hopf and Hans-Jochen Heinze

15:50 S. Ahlfors (Charlestown, Massachusetts, USA)
Resolving multiple simultaneous sources of visual evoked magnetic fields

16:15 M.A. Schönfeld (Magdeburg, Germany)
MEG and ERP correlates of visual motion and object-related attention

16:40 J.-M. Hopf (Magdeburg, Germany)
Neural mechanisms of attentional focusing in visual search

17:05 C.J. Aine (Albuquerque, New Mexico, USA)
Temporal Dynamics of Attention/Working Memory

17:30 General discussion

Workshop 7: Inverse solutions I

chair: Matti Hämäläinen

13:40 M. Hämäläinen (Charlestown, Massachusetts, USA)
An introduction to MEG inverse modelling

13:50 M. Scherg (Munich, Germany)
Multiple source analysis of MEG and EEG data: Tools for validation

14:15 M. Huang (San Diego, California, USA)
Reliable automatic estimation of the multiple dipole sources

14:40 K. Sekihara (Tokyo, Japan)
An overview of beamformer approaches: formulations, underlying assumptions, and major causes of errors

15:05 J. Gross (Düsseldorf, Germany)
Employing beamformers in coherence analysis

Workshop 8: Inverse solutions II

chair: Matti Hämäläinen

15:50 M. Wagner (Hamburg, Germany)
Characteristics of distributed inverse solutions

16:15 D. Schmidt (Los Alamos, New Mexico, USA)
Bayesian approaches to MEG/EEG inverse problem

16:40 R. Leahy (Los Angeles, California, USA)
Assessing the reliability of inverse solutions

17:05 A. Dale (San Diego, California, USA)
Physiological and anatomical prior information for EEG and MEG inverse modeling

17:30 General discussion

Symposium 9: MEG instrumentation
chair: Franz Baudenbacher

8:00 F. Baudenbacher (Nashville, Tennessee, USA)
High-resolution SQUID microscopy for imaging biomagnetic fields

8:20 G. Bison (Fribourg, Switzerland)
SQUID vs. Optically Pumped Magnetometer: A comparison of system performance

8:40 M. Romalis (Princeton, New Jersey, USA)
Magnetoencephalography with an atomic magnetometer

8:54 A. Pasquarelli (Ulm, Germany)
Argos 500: Operation of a Helmet Vector-MEG

9:08 J. McCubbin (Port Coquitlam, Canada)
Advanced electronics for the CTF MEG system

9:22 J. Simola (Helsinki, Finland)
Active shielding method for an MEG device

9:36 A. Matlachov (Los Alamos, New Mexico, USA)
Instrumentation for simultaneous detection of biomagnetic and nuclear magnetic resonance signals in microtesla magnetic fields

Symposium 10: Cortical plasticity after CNS lesions
chair: Thomas Elbert

10:10 T. Elbert (Konstanz, Germany)
Successful neurorehabilitation therapy may recruit dysfunctional brain areas

10:25 F. Tecchio (Rome, Italy)
Brain sensorimotor hand area organization and functionality in acute stroke: Insights from MEG

10:45 K. Kotani (Osaka, Japan)
Spatiotemporal patterns of movement-related fields in stroke patients

11:05 M. Meinzer (Konstanz, Germany)
Intensive language training enhances brain plasticity in chronic aphasia

11:25 J. de Munck (Amsterdam, The Netherlands)
The influence of brain tumor treatment on pathological activity in MEG

11:45 General discussion

America Ballroom North

Workshop 9: Relating electromagnetics and hemodynamics

chair: David Schmidt

8:00 D. Schmidt (Los Alamos, New Mexico, USA)
Introduction

8:10 R. Kauppinen (Manchester, United Kingdom)
Comparison of fMRI and MEG characteristics to vibrotactile stimulation

8:35 A. Devor (Charlestown, Massachusetts, USA)
Neurovascular transfer function in space and time: The linearity and localization

9:00 F. Tecchio (Rome, Italy)
Cerebrovascular disease affects the coupling between neuronal activity and local haemodynamics: An MEG-fMRI-TCD study

9:25 A. Harris (Cambridge, Massachusetts, USA)
Comparing fMRI and MEG Markers of Face Perception

Workshop 10: Validation of measures of neural activity in the absence of a gold standard

chair: Aina Puce

10:10 A. Puce (Morgantown, West Virginia, USA)
Introduction

10:20 F. Lopes da Silva (Amsterdam, The Netherlands)
From cortical neuronal sources to MEG fields – physiological bridges and hurdles

10:40 K. Kiehl (Hartford, Conneticut, USA)
Focal hemodynamic measures of P3a and P3b event-related potentials

11:00 E. Halgren (Charlestown, Massachusetts, USA)
Are intracranial recordings of neural activity the gold standard for validating MEG measures?

11:20 A. Puce (Morgantown, West Virginia, USA)
Correspondence of MEG, ERP measures and fMRI, PET measures of neural activity

11:40 C. Wood (Los Alamos, New Mexico, USA)
General discussion: The synergy of different kinds of uncertainty

America Ballroom Center

Symposium 11: Pain perception in humans

chair: Ryusuke Kagiki; co-chair: Jürgen Lorenz

13:40 R. Kagiki (Okazaki, Japan)
MEG responses following epidermal needle stimulation

14:10 Y. Qiu (Okazaki, Japan)
EEG and MEG responses following stimulation of unmyelinated C fibers

14:30 K. Davis (Toronto, Canada)
Neuroimaging of pain

15:00 J. Lorenz (Hamburg, Germany)
Psychophysiological state dependency of pain-relevant brain activity revealed by functional neuroimaging

Symposium 12: MEG in epilepsy research and diagnosis

chair: Jan de Munck

15:50 N. Nakasato (Sendai, Japan)
Advantages of MEG to investigate complex epilepsy: an overview

16:15 P. Ossenblok (Heeze, The Netherlands)
MSI yields an additional tool for successful presurgical evaluation of frontal lobe epilepsy

16:40 S. Knake (Marburg, Germany)
Whole head MEG and EEG in the presurgical evaluation of epilepsy patients: A prospective study

17:05 G. Scheler (Erlangen, Germany)
MEG in presurgical evaluation

17:30 General Discussion
What is the role of MEG in epilepsy research and diagnosis, in comparison to other modalities?

America Ballroom North

Workshop 11: Action in space

chair: Apostolos Georgopoulos

13:40 R. Caminiti (Rome, Italy)
The parieto-frontal interplay in the control of movement

14:05 H. Merchant (Mexico City, Mexico)
Neurophysiology of the parieto-frontal system during target interception

14:30 J. Ford (New Haven, Connecticut, USA)
Schizophrenia and hallucinations: Evidence from event-related magnetic resonance imaging

14:50 A. Georgopoulos (Minneapolis, Minnesota, USA)
MEG predicts movement trajectory in space

15:10 Discussion

Workshop 12: High-frequency oscillations

chair: Isao Hashimoto

15:50 I. Hashimoto (Kanazawa, Japan)
Exploring the physiology and function of the fastest rhythm (300 - 900 Hz) in the human brain

16:15 D. Barth (Boulder, Colorado, USA)
A new clock speed for neural computation: Submillisecond synchronization of fast electrical oscillations in neocortex

16:40 R. Traub (Brooklyn, New York, USA)
Strong non-synaptic coupling between the axons of excitatory neurons in the cortex: A novel form of neuronal communication

17:05 Y. Okada (Albuquerque, New Mexico, USA)
LTP in the somatosensory cortex revealed by high-frequency signals

17:30 General discussion

Symposium 13: Impaired auditory processing in schizophrenia: Core deficit or correlated phenomenon

chair: Dan Rojas

8:00 D. Rojas (Denver, Colorado, USA)
Introduction and overview

8:10 R. Thoma (Albuquerque, New Mexico, USA)
Auditory sensory gating deficit and cortical thickness in schizophrenia

8:30 K. Mathiak (Tübingen, Germany)
Spectro-temporal neuromagnetic and hemodynamic correlates of impaired P50 suppression in schizophrenia

8:50 J. Ahveninen (Charlestown, Massachusetts, USA)
Inherited auditory-cortical abnormalities in twins discordant for schizophrenia

9:10 S. Stufflebeam (Charlestown, Massachusetts, USA)
A specific reduction in the sustained 40Hz magnetic field power in schizophrenia

9:30 General discussion

Symposium 14: TMS

chair: Mark Hallett

10:10 M. Hallett (Bethesda, Maryland, USA)
Multimodality studies of simple movement

10:35 T. Paus (Montreal, Canada)
Neural connectivity and its modulation by transcranial magnetic stimulation of the human frontal cortex

11:00 A. Pascual-Leone (Boston, Massachusetts, USA)
Combined EEG-TMS technique to study brain-behavior relations

11:25 H. Siebner (Kiel, Germany)
Linking changes in cortical excitability with changes in neuronal activity using a combined TMS-neuroimaging approach

11:50 General discussion

America Ballroom North

Workshop 13: Functional connectivity

chair: Bob van Dijk

8:00 B. van Dijk (Amsterdam, The Netherlands)
Can MEG be used to measure connectivity in the brain?

8:10 A. Schnitzler (Düsseldorf, Germany)
Tomographic mapping of functional connectivity from magnetoencephalographic recordings

8:35 O. David (London, United Kingdom)
Studying effective connectivity with a neural mass model of MEG/EEG evoked responses

9:00 K. Linkenkaer-Hansen (Amsterdam, The Netherlands)
The temporal dimension of functional links

9:25 D. Tuch (Charlestown, Massachusetts, USA)
Diffusion MRI of white matter circuitry

Workshop 14: Paced movements

chair: Alfons Schitzler

10:10 W. Gaetz (Toronto, Canada)
Neuromagnetic imaging of self-initiated vs. visually cued movements

10:30 B. Pollok (Düsseldorf, Germany)
The cerebral network of paced movements

10:50 J.-M. Schoffelen (Nijmegen, The Netherlands)
Cortico-muscular gamma-frequency coherence is correlated with instantaneous target probability

11:10 T. Boonstra (Amsterdam, The Netherlands)
Impacts of fatigue on synchronization between MEG and EMG

11:30 L. Timmermann (Düsseldorf, Germany)
Pathological oscillatory coupling within the human motor system in different tremor syndromes as revealed by magnetoencephalography

11:50 General discussion

America Ballroom Center

About poster sessions

The posters will be displayed at three locations:

E001 – E086	Essex Ballroom South, third floor
A087 – A158	America Ballroom South, fourth floor
F159 – F186	The fourth floor foyer area

We suggest that you set up your poster before the first morning session on the day of your poster presentation so that it will be available for viewing throughout the day.

Note: Please remove your poster after the evening session. Any posters remaining from the session of the previous day will be removed by the organizers by 8 am each morning.

P1-1 Signal processing

E001 Topographic classification of EEG patterns in Huntington's disease
Bellotti R, De Carlo F, Massafra R, de Tommaso M, Sciruicchio V

E003 Detection of Power Changes Between Conditions using Split-Half Resampling for Synthetic Aperture Magnetometry Data
Chau W, Herdman AT, Picton T

E005 Noise Reduction in MEG Data Recorded by a New 500-Channel MEG Vectorgradiometer System
DeMelis M, DeCesaris I, DiPietroPaolo D, Müller HP, Nolte G, Erné SN

E007 Noise Reduction in MCG data by Singular Value Decomposition and Independent Component Analysis
DiPietroPaolo D, Müller HP, Nolte G, DeCesaris I, Erné SN

E009 Rejection of stimulus-related MEG artifacts using independent component analysis
Iwaki S, Yamamoto C, Tonoike M, Yamamoto TS

E011 Magnetic Noise Rejection Method using Independent Component Analysis for the Magnetocardiogram – magnetic noise by the wire for the operation
Kobayashi K, Yamazaki K, Uchikawa Y, Simizu T, Nakai K, Yoshizawa M

E013 Elimination of Brain Noise from MEG Data using ICA with Robust Pre-Whitening Technique
Konno Y, Cao J, Tanaka M, Takeda T, Endo H

E015 Automatic Artifact Component Removal Using a Neural Network in MCG Signal
Lee DH, Kim TH, Ahn CB

E017 MEG Latency Difference Measurement for Priming Experiments
Matani A, Hayakawa T, Munetsuna S, Fujimaki N

E019 Noise Reduction in Stress MCG Data by Independent Component Analysis
Müller HP, DeCesaris I, DeMelis M, Nolte G, Erné SN

E021 Removal of the Baseline Drift in Magnetocardiogram Using the Morphological Filter
Mun KW, Lee YH, Kim K, Kwon H, Kim JM

E023 A Grid Computing Infrastructure for MEG Data Analysis
Nakagawa S, Kosaka T, Date S, Shimojo S, Tonoike M

E025 The Use of Non-parametric Statistics for Signal Subspace Detection in MEG/EEG
Ossadtchi A, Pflieger ME

E027 Spatiotemporal noise covariance model and its application to MEG/EEG source analysis
Plis SM, George JS, Jun SC, Paré-Blagoev J, Ranken DM, Schmidt DM, Wood CC

E029 QRS-Fragmentation Detected by Filtering with Binomial Non-Recursive Filters
Schless BG, DiPietroPaolo D, Müller HP, Pasquarelli A, DeMelis M, Erné SN

E031 Magnetocardiographic Study of Heart Repolarization Disturbances
Schless BG, Zhu R, DeMelis M, Müller HP, Pasquarelli A, DiPietroPaolo D, Erné SN

E033 Spatial-Temporal Analysis of Nonstationary fMEG Data
Sonid P, Chand Y, Preissl H, Eswaran H, Wilson JD, Murphy P, Lowery CL

E035 MEG Recordings of DC Fields Using the Signal Space Separation Method (SSS)
Taulu S, Simola J, Kajola M

E037 Software Magnetic Shield by the Signal Space Separation method (SSS)
Taulu S, Kajola M, Simola J

E039 Model selection in spatio-temporal electromagnetic source analysis
Waldorp LJ, Huizenga H, Nehorai A, Grasman RPPP, Molenaar PCM

E041 Time-Frequency and Coherence Analysis of fMEG Signals
Wu X, Chan Y, Preissl H, Eswaran H, Wilson JD, Murphy P, Lowery CL

E043 Influence of prandial state in intragastric distribution of a small volume evaluated by AC Biosusceptometry.
Américo MF, Oliveira RB, Baffa O, Corá LA, Paixão FC, Miranda JRA

E045 Surface-based representation of human intracranial EEG signals: electrode projection and volume conduction maps
Bauchet F, Bidet-Caulet A, Fischer C, Bertrand O

E047 Magnetic Images of the Disintegration Process of Tablets by AC Biosusceptometry
Corá LA, Romeiro FG, Américo MF, Baffa O, Stelzer M, Miranda JRA

E049 Application of selective averaging by single trial cross-correlation for the robust extraction of transient evoked magnetic fields
Ferrari P, Sussman M, Roberts TPL

E051 Synchronization Tomography: model calculations of spatial resolution and noise tolerance; optimization of source localization
Fieseler T, Dammers J, Tass PA

E053 QRS-Fragmentation Detected by Filtering with Binomial Non-Recursive Filters: A new method of noise reduction using independent component analysis and wavelet transformation
Inoue G, Honda S, Kunihiro T, Aoyama A

E055 The MEG signal you record is what is
Ioannides AA, Burbank M

E057 A Study on Wavelet Filtering of fMRI Multimodal Imaging with Spectral Noise
Kang S

E059 Imaging and Detection of Oscillatory Activity in MEG using Time-Frequency Analysis and Permutation Tests
Pantazis D, Hough M, Nichols TE, Simpson GV, Leahy RM

E061 Movement correction in MEG
Taulu S, Kajola M, Simola J

E063 Phase resetting tomography: A method for three-dimensional localization of stimulus-locked complex responses and transient synchronization with MEG
Tass PA, Fieseler T, Dammers J, Barnikol U, Dolan K, Schiek M, Boers F, Muren A, Wuttich S, Zilles K, Niedeggen M

E065 Single-trial analysis by a complex filtering approach: examination by auditory evoked M100
Trahms L, Salajegheh A, Link A, Elster C, Burghoff M, Sander T, Poeppel D

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E067 A new Algorithm for Detection of Coherent Brain Areas with MEG
Belardinelli P, Ciancetta L, Pizzella V, Del Gratta C, Romani GL

E069 Cortical rhythms in AD, LBD and old normal subjects: a quantitative MEG study
Franciotti R, Iacono D, Della Penna S, Pizzella V, Torquati K, Onofrj M, Romani GL

E071 Spectral Analysis of Localized Slow Waves Observed in Patients Suspected of Cerebral Ischemia
Hatanaka K, Tamafuri K, Seki S, Ohtomo S, Kanno A, Nakasato N

E073 Chaotic Analysis Approach In Neonatal Magnetoencephalography
Kotini A, Adamopoulos A, Koutlaki N, Avgidou K, Anninos P, Anastasiadis P

E075 Alterations in Power Distributions Reflect Symptom Changes in Schizoaffective Disorder
Schulman JJ, Ramirez R, Cancro R, Ribary U, Llinás R

E077 Dynamic Statistic Parameter Maps of Spontaneous Alpha and Mu Rhythms
Chen CC, Dale AM, Halgren E

E079 The influence of brain tumor treatment on pathological activity in MEG
de Munck JC, de Jongh A, Baayen JC, Heethaar RM, Vandertop WP, Stam CJ

E081 MEG Imaged Brain Activation during the Transition from Wake to Sleep
Drake CL, Moran JE, Scofield H, Tepley N, Roth T

E083 The temporal dimension of functional links
Linkenkaer-Hansen K

E085 The effect of body mass on insulin sensitivity in the cerebral cortex of humans
Preiss H, Tschritter O, Marx H, Frost R, Fritsche A, Lutzenberger W, Häring HU, Stumvoll M, Birbaumer N

E086 Tinnitus related distress correlates with fronto-temporal alpha reduction and delta enhacement as measured by magnetencephalography
Weisz N, Moratti S, Keil A, Meinzer M, Elbert T

P1-3 MEG: Memory and cognition

A087 Working Memory Processing In Normal Subjects and Subjects with Dyslexia
Bowyer SM, Lajiness-O'Neill R, Weiland B, Mason KM, Tepley N

A089 Neural Correlates of Event Related Distractions During A Driving Task Using MEG
Bowyer SM, Hsieh L, Moran JE, Chiang YR, Young RA, Tepley NS

A091 An MEG Study of the Spatiotemporal Dynamics of Feature Binding
Filbey FM, Holroyd T, Slack K, Maltzman L, Coppola R, Sunderland T, Cohen RM

A093 A Study of Visual Tasks to Measure MEG Signals Associated with Memory Functions
Higuchi M, Hatsusaka N

A095 Probing awareness by regional neural-coupling based on linearly independent beamformer projection of MEG data
Holroyd T, Hendler T, Espen M, Ungerleider LG

A097 MEG analysis of "Theory Of Mind" in Emotional Vignettes Comprehension
Ishii R, Gojmerac C, Gallup GG Jr, Alexander MP, Stuss DT, Pantev C

A099 Cortical Processing Differences in Attention-Deficit Hyperactivity and Normal Control Subjects
Nagel SM, Bowyer SM, Moran JE, Tepley N

A101 MEG study on the perception of rhythm and its expression in authentic music
Popescu M, Otsuka A, Ioannides AA

A103 Effect of Working Memory Load on MEG coherence
Tanaka K, Kawakatsu M, Yunokuchi K

A105 An Analysis of Logical Process of 3D Virtual Imaging Creation – A Parametric fMRI Study
Wang L

A107 Activity in the Cingulate Region Immediately Prior to Making Response in a Working Memory Task
Altamura M, Elvevåg B, Holroyd T, Carver FW, Pezawas L, Cohen JR, Mattay V, Goldberg TE, Weinberger DR, Coppola R

A109 Working memory impairments and severe Traumatic Brain Injury: what does MEG reveal
Asloun S, Croizé AC, Ducorps A, Schwartz D, Garnero L, Azouvi P

A111 MEG and fMRI Evidence of Working-Memory Networks in Children
Ciesielski KT, Lesnik PG, Ahlfors SP

A113 MEG activation comparison to fMRI BOLD for a working memory task
Coppola R, Callicott JH, Holroyd T, Verchinski BA, Sust S, Weinberger DR

A115 Spatio-temporal organisation of frontal cortical areas underlying different levels of cognitive control
Croizé AC, Burnod Y

A117 Neural Dynamics Underlying Time Estimation in an Auditory Oddball Task
Elvevåg B, Carver FW, Altamura M, Holroyd T, Mattay V, Goldberg TE, Weinberger DR, Coppola R

A119 Object Priming-Related Changes in Cortical Synchronization
Gilbert J, Holroyd T, Carver FW, Bellgowan P, Martin A

A121 Equivalent current dipole estimation from human brain magnetic evoked responses to visual and auditory stimuli as part of a short-term memory task
Gjini K, Maeno T, Iramina K, Ueno S

A123 Electrophysiological Correlates and Neuronal Substrates of the Perception of Musical Phrase Structure
Knösche TR, Neuhaus C, Haueisen J

A125 Encoding of Visual Features and Their Conjunctions: An fMRI and MEG Study
Kovacevic S, Clark VP, Okada Y, Partridge LD, Aine CJ

A127 Transient and Steady-State magnetic fields following combined audio-electrical stimulation
Schulz M, Ross B, Pantev C

A129 Cortical rhythms of rhythmical tune tapping
Schulz M, Ross B, Wollbrink A, Chau W, Fujioka T, Ishii R, Pantev C

A131 Coherence Analysis Reveals Brain Networks Associated with Learning to Entrain Movement to Visual Cues
Tesche CD, Martin T, Houck JM, Ilmoniemi RJ

A133 The study of working memory with a novel method of stimulus presentation
Weisend MP, Hanlon FM, Huang MX, Thoma RJ, Lee RR, Miller GA, Canive JM

P1-4 DC Phenomena

A135 Cortical Hyperexcitability in a Migraine patient before and after Sodium Valproate Treatment
Bowyer SM, Mason KM, Moran JE, Tepley N, Mitsias PD

A137 Tonic motor cortex activation during fast and slow finger movements analyzed by simultaneous DC-Magnetoencephalography (DC-MEG) and DC-Electroencephalography (DC-EEG)
Leistner S, Sander T, Burghoff M, Curio G, Trahms L, Mackert BM

A139 Technique for the direct measurement of dc-like magnetic biosignals demonstrated by the cold reflex of the abdomen
Schnabel A, Thiel F, Mueller W, Burghoff M

A141 DC-Magnetoencephalography: direct measurement in an extremely magnetically shielded room
Burghoff M, Sander TH, Schnabel A, Drung D, Mackert BM, Curio G, Trahms L

A143 Concurrent DC-Magnetoencephalography and Near-Infrared Spectroscopy for the Study of Slow Brain Activity
Sander TH, Liebert A, Wabnitz H, Burghoff M, Macdonald R, Trahms L, Leistner S, Curio G, Mackert BM

A145 Imaging DC MEG Fields Associated with Epileptic onset in Rat
Weiland B, Bowyer SM, Moran JE, Jenrow K, Tepley N

P1-5 Magnetic particles and magnetic fields from other organs and non-human sources

A147 Cell Magnetometry for an Evaluation of Toxicity of Man-Made Mineral Fibers
Aizawa Y, Kudo Y, Shinji H, Okada M, Sugiura Y, Komatsu Y, Kotani M

A149 In vivo tissue characterization using magnetic techniques
Carneiro AA, Fernandes JP, Araújo D, Baffa O, Elias J Jr., Pierre G St., Ribeiro LT, Santos AC, Covas DT

A151 The Colon Transit Time in Different Phases of the Menstrual Cycle: Assessed with Biomagnetic Technique
Córdova-Fraga T, Huerta-Franco R, Gutiérrez-Juárez G, Sosa-Aquino M, Vargas-Luna M

A153 Imaging of the liver iron concentration by using an AC bio-susceptometer
Della Penna S, Pentiricci A, Cianflone F, Del Gratta C, Erné SN, Romani GL

A155 Binding kinetics of magnetic nanoparticles on latex beads and yeast cells studied by magnetorelaxometry
Eberbeck D, Bergemann C, Hartwig S, Steinhoff U, Trahms L

A157 Interaction of Artificial Metallic Objects with Biosusceptometric Measurements
Engelhardt R, Fung EB, Kelly P, Biehl TR, Pakbaz Z, Harmatz P, Fischer R

F159 Magnetocardiography of animals in magnetically shielded environment with active compensation
Horng HE, Liao SH, Hsu SJ, Yang HC, Jeng JT, Wu CC

F161 On-line localization magnetic markers for clinical applications and drug delivery studies
Kosch O, Weitschies W, Trahms L

F163 Development of a magnetic field measurement system for small animal lungs
Kotani M, Zheng Y, Aizawa K, Kudou Y

F165 Cytomagnetometric Study of Interactions of the Cytoskeletal Filaments
Nemoto I, Kawamura K

F167 Development of a Portable Pneumomagnetic Measurement Device
Zheng Y, Kotani M, Utsukawa Y, Nakadate T

F169 Caecal Contraction Activity and Feed Transit Time in Rabbits (Oryctolagus cuniculus), by AC Biosusceptometry (ACB)
Andreis U, Moraes R, Corá LA, Américo MF, Baffa O, Spadotto AJ, Paixão FC, Miranda JRA

F171 Biomagnetic measurements of possible transnodal spreading of action potential in green algae Chara corallina
Baudenbacher F, Fong LE, Jazbinsek V, Thiel G, Trontelj Z

F173 Analysis of Propagation of Gastric Magnetic Fields
Bradshaw LA, Myers AG, McDowell JG, Richards WO

F175 Identification of Magnetic Field Injury Currents in Ischemic Small Intestine
Bradshaw LA, Roy OP, Myers AG, McDowell JG, Wikswo JP, Richards WO

F177 An Anatomically Based Model for MGG Simulation
Buist ML, Cheng LK, Yassi R, Pullan AJ

F179 Measurement of Magnetic Fields of Compound Nerve Action Current Using High Resolution SQUID
Iramina K, Tatsuoka H, Ueno S

F181 Influence of ac magnetic fields on MNP-bearing solitary cells
Glöckl G, Trahms L, Weitschies W

F183 Passive room temperature sensor for oral drug tracking and delivery studies
Kumar S, Avrin WF, Hecht D, Bennett S, Walsh D

F185 In Vivo Magnetic Marker Monitoring of Hydrophilic Gel Matrix Tablets
Söderlind E, Weitschies W, Abrahamsson B, Mönnikes H, Fach K, Kosch O, Trahms L

P2-1 MEG: Language

E002 Neuromagnetic Signatures of Verbs
Assadollahi R, Rockstroh B

E004 Neuromagnetic sensitivity to anomalous vowel nasalization in English
Flagg E, Oram Cardy J, Ferrari P, Roberts TPL

E006 The Effect of Word Familiarity on Visually Evoked Magnetic Fields
Harada N, Nakagawa S, Iwaki S, Yamaguchi M, Tonoike M

E008 Cortical oscillations modulated by congruent and incongruent audiovisual stimuli
Herdman AT, Fujioka T, Chau W, Ross B, Pantev C, Picton TW

E010 Multi-Language Area Activities in Sentence Reading
Kuriki S, Watanabe N, Takeuchi F, Hagiwara H, Soshi T, Kouso A

E012 Auditory evoked field responses in the left hemisphere to morphosyntactic violation in Korean senstence
Kwon H, Kim JM, Lee YH, Kim K, Park YK, Nam K, Kuriki S

E014 Head Position in the MEG Helmet Affects the Sensitivity to Anterior Sources
Marinkovic K, Cox B, Reid K, Halgren E

E016 MEG Evidence for Phonological Underspecification
Walter MA, Hacquard V

E018 Spatiotemporal analysis of neuromagnetic activation associated with mirror reading
Xiang J, Holowka S, Chuang S

E020 MEG Evidence that Age of Language Learning Does Not Matter
Cuervo MC, Flynn S, Jacobs K, Leung B, Schultz M

E022 Compound words and structure in the lexicon: an MEG investigation
Fiorentino R, Poeppel D

E024 Hemispheric language dominance in patients with focal epilepsies: a prospective MEG study
Foxe DM, Knake S, Hara K, Camposano S, Grant PE, Bromfield EB, Bourgeois BF, Cole AJ, Stufflebeam SM

E026 Magnetic Responses to Visually Presented Words with Masked Repetition Priming
Fujimaki N, Hayakawa T, Munetsuna S, Matani A

E028 Pure alexia in stroke patients measured by MEG utilizing MR-FOCUSS
Greenwald ML, Bowyer D, Bowyer SM

E030 Semantic Contextual Effects on Early Neural Activities for Visual-Word Processing
Hayakawa T, Fujimaki N, Munetsuna S

E032 SAM analysis of focal oscillatory change induced by silent reading
Hirata M, Kato A, Baba T, Taniguchi M, Oshino S, Hirayama A, Sakihara K, Koreeda S, Yorifuji S, Yoshimine T

E034 Right hemisphere beta and posterior alpha oscillations are modulated in a language comprehension task
Jensen O, Weder N, Bastiaansen M, Dijkstra T, Hagoort P

E036 Form vs. Meaning in Visual Word Recognition: An MEG study using Masked Priming
Ko H, Wagner M, Stockall L, Kouider S, Marantz A

E038 Magnetoencephalographic Study of Written Chinese Word Processing
Lin YY, Yu HY

E040 Categorization of Speech and Non-speech Sounds: An MEG study
Luo H, Husain FT, Poeppel D, Horwitz B

E042 Intensive language training enhances brain plasticity in chronic aphasia
Meinzer MF, Elbert TR, Wienbruch C, Djundja D, Rockstroh B

E044 MEG investigation of phonological processing during reading in children and adults
Mody M, Mosher S, Ahlfors SP

E046 Neuromagnetic Responses to Words Presented in Peripheral Visual field
Munetsuna S, Fujimaki N, Hayakawa T, Sasaki T

E048 Morphological Decomposition in Hebrew Verbs: An MEG Masked Priming Study
Nevins A, Bachrach A, Marantz A

E050 Speech intervention affects brain activity in bilingual language impaired children
Pihko E, Mickos A, Kujala T, Alku P, Byring R, Korkman M

E052 An MEG correlate of word recognition
Pulvermüller F, Shtyrov Y, Ilmoniemi RJ, Marslen-Wilson W

E054 Determinants of Dominance: Is Language Laterality Explained by Physical or Linguistic Features of Speech? An MEG study
Pulvermüller F, Shtyrov Y

E056 Time course of word meaning processing as revealed by magnetoencephalography
Pulvermüller F, Shtyrov Y, Ilmoniemi RJ

E058 Distinct effects of semantic plausibility and semantic structure building in MEG
Pylkkänen L, Llinás R, McElree B

E060 MEG evidence for distinct processing of polysemy, homonymy and semantic relatedness bilaterally
Pylkkänen L, Llinás R, Murphy G

E062 Changes in EEG Power Spectral Densities During Object Naming
Ramon C, Holmes M, Eriksen J, Vanhatalo S

E064 Systematic cortical representation of vowel categories in the human auditory cortex
Shestakova A, Brattico E, Soloviev A, Klucharev V, Huotilainen M

E066 Early Development of Neurophysiological Processes Involved in Normal Reading and Reading Disability
Simos P, Sarkari S, Papanicoloau AC

E068 The English Irregular Past Tense: MEG evidence for morphological decomposition
Stockall L, Marantz A

E070 Neural Patterns of Semantic Interference During Reading Revealed by MEG
Wehner D, Ahlfors SP, Mody M

E072 Time Course of Perisylvian Cortices Indicates Phonological Decoding Operations
Wilson TW, Leuthold AC, Pardo PJ

E074 N400-like MEG Response Elicited by Verbs in English Relative Clauses
Yeung HH, Hashimoto R, Phillips C, Sakai KL

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E076 Separation of fetal and maternal magnetocardiographic signals in twin pregnancy using independent component analysis (ICA)
Burghoff M, Van Leeuwen P

E078 Reconstruction of reliable fetal cardiac signals from fMCG recordings: comparison of methods
Comani S, Mantini D, Lagatta A, Alleva G, Di Luzio S, Romani GL

E080 On-line Fetal Heart Rate Monitoring Using SQUID Sensor Arrays
Gutiérrez D, Nehorai A, McKenzie D, Eswaran H, Lowery CL, Preissl H

E082 A vector magnetometer for standardization of fetal magnetocardiogram waveforms and analysis of fetal arrhythmias
Horigome H, Ogata K, Miyashita T, Kandori A, Tsukada K, Shiono J, Murakami T, Takahashi-Igari M, Matsui AS

E084 Magnetocardiography in Fetuses with Congenital Structural Heart Diseases
Hosono T, Kandori A, Chiba Y, Sugita Y, Fujii M, Suetake A, Haruna J, Kitajima E, Tsukada K

A088 Autocorrelation detection of R-wave peak in fetal magnetocardiogram
Kandori A, Ogata K, Murakami M, Miyashita T, Tsukada K, Hosono T, Chiba Y, Miyashita S, Horigome H, Matsui A

A090 HTS Magnetometers for Fetal Magnetocardiography
Li Z, Wakai RT, Paulson DN, Schwartz B

A092 Influence of fetal age and gender on cardiac time intervals in fetal magnetocardiography
Van Leeuwen P, Klein A, Lange S, Geue D, Grönemeyer D

A094 Assessment of fetal growth on the basis of signal strength in fetal magnetocardiography
Van Leeuwen P, Beuvink Y, Lange S, Klein A, Geue D, Grönemeyer D

A096 Phase coordination in magnetocardiographically recorded fetal and maternal heart rates
Van Leeuwen P, Geue D, Lange S, Klein A, Grönemeyer D

A098 Gradiometer for Fetal Heart Monitoring in Hospital Setting
Bachir W, Dunajski Z, Grot P, Palko TS

A100 Analysis of Fetal Heart Rate Variability Using Fetal Magnetocardiograms Recorded in a Magnetically Disturbed Environment
Brazdeikis A, Verklan MT, Padhye NS

A102 Separation of Normal and Ectopic FMCG Rhythms Using Independent Component Analysis
Campbell JQ, Eswaran H, Preissl H, Wilson JD, Best T, Murphy P, Lowery CL

A104 Characterization of fetal arrhythmias by means of fetal magnetocardiography in three cases of maternal obesity, fetal prone position, and oligohydramnios
Comani S, Liberati M, Mantini D, Alleva G, Brisinda D, Meloni AM, Fenici R, Romani GL

A106 Time course of heart rate and cardiac time intervals variability: a mother-fetus match study
Comani S, Mantini D, Liberati M, Alleva G, Di Luzio S, Romani GL

A108 Influence of fetal growth restriction on linear and non-linear parameters of fetal heart rate variability (HRV) investigated by fetal magnetocardiography (FMCG)
Kähler C, Schleussner E, Hoyer D, Haueisen J, Seewald HJ

A110 Complete fetal mapping reconstruction by means of Independent Component Analysis for cardiac source modeling
Mantini D, Comani S, Alleva G, Di Luzio S, Romani GL

A112 Prenatal reconstruction of magnetocardiographic signals from twins using independent component analysis
Mantini D, Comani S, Alleva G, Gabriele E, Di Luzio S, Liberati M, Romani GL

A114 Prenatal diagnosis of a long QT syndrome by fetal MCG in an unshielded environment
Schneider U, Kähler C, Haueisen J, Loeff M, Strauss A, Schleussner E, Nowak H, Engelmann R, Bondarenko N, Zakosarenko V, Stolz R, Schulz M, Meyer HG

A116 Expanding Clinical Application of Fetal Magnetocardiography
Strasburger J, Cuneo B, Gotteiner N, Wakai R

A118 Assessment of Normal and Fetal Arrhythmia QT Intervals by Fetal Magnetocardiography
Zhao H, Wakai R, Strasburger J, Cuneo B, Gotteiner N

P2-3 Fetal and perinatal MEG

A120 Auditory evoked magnetic fields to speech stimulus in newborns – effect of sleep stages
Pihko E, Sambeth A, Leppänen P, Okada Y, Lauronen L

A122 Cleaning Fetal MEG Using a Beamformer Search for the Optimal Forward Model
Robinson SE, Vrba J

A124 Fetal MCG and fetal MEG measurements with a 3-channel SQUID system
Schneider U, Gießler F, Nowak H, Logemann T, Grimm B, Haueisen J, Schleussner E

A126 Auditory magnetic mismatch negativity response in the human fetal brain
Draganova R, Eswaran H, Murphy P, Holst M, Lowery CL, Huotilainen M, Preissl H

A128 Tracking developmental changes in the visual evoked responses in human fetus using MEG
Eswaran H, Lowery CL, Holst M, Murphy P, Wilson JD, Preiss H

A130 3D Ultrasound Images for Realistic Volume Conductor Modeling of the Fetal MEG
Haueisen J, Eichardt R, Schneider U, Kähler C, Schleussner E

A132 Development of Neonatal Auditory Evoked Responses
Lutter WJ, Wakai RT, Maier MM, Baryshnikov BV

A134 Somatosensory evoked magnetic fields to median nerve stimulation in newborns
Pihko E, Lauronen L, Wikström H, Parkkonen L, Okada Y

A136 Effects of antenatal glucocorticoids (GC) on parameters of human maternal and fetal cortical function detected by simultaneous registration of maternal EEG and fetal MEG
Schleussner E, Arnscheidt C, Schneider U, Haueisen J, Schwab M, Seewald HJ

P2-4 Cardiac modeling

A138 Sixty-Four Channels MCG and Three Dimensional Current Density Map
Simizu T, K. Nakai K, Ito M, Nakamura Y, Yaegashi M, Yoshioka K, Shozushima M, Yukimori R, Kobayashi K, Yoshizawa M

A140 The MCG Torso Model Study of Current Flow Heterogeneity
Sosnytskyy V, Hugenholtz PG, Sutkovyy P, Awolin B

A142 Combined high resolution MCG and action potential imaging
Holzer JR, Sidorov VY, McBride K, Fong L, Baudenbacher F

A144 Magnetocardiographic Gradient Analysis of Atrial Activation
Mäntynen V, Koskinen R, Montonen J, Steinhoff U, Nenonen J, Toivonen L, Katila T

A146 On the Optimization of Spatial Filter to Construct Three-Dimensional Current Density Imaging from MCG Signal
Yoshizawa M, Simizu T, Ito M, Nakamura Y, Kobayashi K, Uchikawa Y, Nakai K

P2-5 MCG: Basic research

A148 Generation of Cardiac Action Potentials with Multi-dipole Current Sources in Heart Phantom
Huh Y, Jeon CL, Jin SO, Han BH, Youm DH, Kim KU

A150 Spatial current dispersion pattern that characterize and separate the Brugada syndrome and complete right-bundle branch block
Kandori A, Shimizu W, Yokokawa M, Noda T, Kamakura S, Miyatake K, Murakami M, Miyashita T, Ogata K, Tsukada K

A152 Averaging Algorithm based on data statistics in Magnetocardiograpy
Kim K, Lee YH, Kwon H, Kim JM, Park YK

A154 Optimal Sensor Distribution for Measuring the Tangential Field Components in MCG
Kim K, Lee YH, Kwon H, Kim JM, Kim IS, Park YK

A156 Neonatal Magnetocardiography
Kotini A, Avgidou K, Koutlaki N, Anninos P, Anastasiadis P

A158 Magnetocardiographic image of the athlete's heart
Mosterd WL, Chaikovsky I, van der Kolk HK, de Vries W, Senden PJ, Hugenholtz PG

F160 Bayesian Classification of Myocardial Excitation Abnormality Using Magnetocardiogram Maps for Mass Screening
Ono Y, Ishiyama A, Kasai N, Yamada S, On K, Watanabe S, Yamaguchi I, Miyashita T, Tsukada K

F162 Multiple-channel SQUID System with Referential Sensors for Magnetocardiography
Simizu T, Yaegashi M, Nakamura Y, Ito M, Kobayashi K, Nakai K, Yoshizawa M

F164 MCG : New Insights into Old Ideas
Sosnytskyy V, Stadnyuk L

F166 Functional Anisotropy: Can It Be Detected By Magnetocardiography?
Sosnytskyy V

F168 Spatial distribution of cardiac magnetic vector fields acquired from 3120 SQUID positions
Steinhoff U, Schnabel A, Burghoff M, Freibier T, Thiel F, Koch H, Trahms L

F170 MCG as a Tool for Drug Safety Testing and Knock-Out Model Animal Studies
Steinhoff U, Knappe-Grüneberg S, Schnabel A, Thiel F, Schurig T, Bader M, Koch H

F172 An imaging and quantitative analysis technique for diagnosis of electro-physiological excitation abnormality of heart
Tsukada K, Ogata K, Miyashita T, Yamada S, Horigome H, Shiono J, Kiwa T, Kandori A, Yamaguchi I

F174 3-D Magnetic Measurement of Exercise-Induced MCG
Uchikawa Y, Kim BS, Kobayashi K

F176 New Computerized Methods for Current Density Vector Map Evaluation
Vasetsky Y, Fainzilberg L, Chaykovsky I

F178 Magnetocardiographic Differences of Ventricular Repolarization Parameters between Wistar Rats and Guinea Pigs
Brisinda D, Meloni AM, Fenici R

F180 Comparison of magnetocardiographic and electrocardiographic abnormalities in closed chest pigs with chronic ischemia
Chaikovsky I, Duncker D, van Deel E, van Bremen R, de Waard M, McFalls E

F182 Effects of imaging area in the identification of electrical propagation in atrial tissue using a multichannel SQUID system
Costa Monteiro E, Andrade Lima E, Hall Barbosa C, Eiselt M, Gießler F, Flemming L, Bystronski MF, Haueisen J

F184 Magnetic Noise Reduction in Magnetocardiography Using ICA
Lee SY, Byun HS, Han BH, Huh Y

F186 Signal Space Separation in Magnetocardiography
Mäntynen V, Karvonen M, Taulu S, Nenonen J, Simola J, Kajola M, Ahonen A, Katila T

P3-1 MCG: Clinical

E001 Prognostic Value of Magnetocardiographic Screening in Cardiovascular Outpatients:A One Year Follow-up Study
Berndt C, Chaikovsky I, Korfer J, Pipper C, Horstkotte H

E003 Magnetocardiographic Study of Ventricular Repolarization in Hypertensive Patients with and without Left Ventricular Hypertrophy
Brisinda D, Meloni AM, Fenici R

E005 Evaluation of the magnetocardiography indexes in patients with cardiac diseases
Budnyk MM, Kozlovsky V, Stadnyuk L, Zahrabova O, Ryzhenko T, Getman T

E007 Atlas of typical magnetocardiographic maps for diagnosis of CAD within ST-T interval
Chaikovsky I, Auth-Eisernitz S, Avolin B, Hailer B

E009 Application of the magnetocardiographic mapping in patients with “uncomplicated” transplanted hearts in comparison to those with coronary artery disease and to healthy volunteers
El-Arousy M, Chaikovsky I, Koertke H, Tenderich G, Minami K, Morshuis M, Korfer R

E011 Effects of Filtering on Computer-Aided Analysis for Detection of Chronic Ischemic Heart Disease with Unshielded Rest Magnetocardiographic Mapping
Fenici R, Brisinda D, Meloni AM

E013 Non-invasive Electrophysiologic Study with Amagnetic Transesophageal Pacing during Unshielded Multichannel Magnetocardiographic Mapping
Fenici R, Brisinda D, Meloni AM

E015 The value of magnetocardiography in patients with chest pain with and without hemodynamically relevant stenoses of the coronary arteries using an unshielded four channel system
Hailer B, Van Leeuwen P, Auth-Eisernitz S, Chaikovsky I, Schäfer H, Grönemeyer D

E017 Comparison of the MCG parameters between normal subjects and Ischemic patients Using 61-channel SQUID System
Jeon CI, Huh Y, Han BH, Jin SO, Youm DH, Kim KU, Byun HS, Lee SH, Choi SY, Choi SH

E019 Synthetic Aperture Magnetometry with Independent Component Analysis for the Magnetocardiogram of WPW Syndrome
Kim K, Lee YH, Kwon H, Kim JM, Kim IS, Park YK, Bae JH

E021 Diversity in Activation of Healthy Atria by Magnetocardiographic Gradient Analysis
Kuusisto J, Koskinen R, Mäntynen V, Nenonen J, Mäkijärvi M, Montonen J, Toivonen L

E023 Three-Dimensional Electrical Current Density Map by 64-Channel Magnetocardiography in Patients with Atrial Flutter and Atrial Fibrillation
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E025 Value of magnetocardiography for diagnosis of readiness to paroxysmal supraventricular tachycardia in children
Tarusinov G, Primin M, Chaykovsky I, Vogt J, Hartmann J, Beerbaum P, Awolin B, Meyer H

E027 Relationship between clinical and magnetocardiographic parameters in the context of Coronary Artery Disease
Van Leeuwen P, Lange S, Klein A, Geue D, Hailer B, Grönemeyer D

E029 Online Heart Model Creation for Magnetocardiographic Measurements
Veisterä H, Fenici R

E031 Status Of MCG Systems Operating In Unshielded Hospital Rooms
Bakharev AA, Hegstad BJ, Sokolowski RS, Sternickel K, Tralshawala N, Rosner CH

E033 Changes in Magnetocardiogram Patterns of Infarcted-Reperfused Myocardium after Injection of Superparamagnetic Contrast Media
Brazdeikis A, Chu CW, Cherukuri P, Litovsky S, Naghavi M

E035 Clinical Magnetocardiographic Mapping at the Catholic University of Rome
Brisinda D, Meloni AM, Fenici R

E037 Usefulness of magnetocardiography in CAD patients with complete left or right bundle brunch block
Chaikovsky I, Primin M, Auth-Eisernitz S, Schafer G, Hailer B

E039 Analysis of normal volunteer and stable angina patients using 61-Channel Magnetocardiography
Choi SY, Choi SH, Khang HS, Lee SH, Byun HS

E041 Comparison of magnetocardiographic images with the quantitative analysis of the coronary arteriogram
Ebmeyer S, Chaikovsky I, Hailer B, Erbel R, Wojczik H, Simon R

E043 Stability of Selected Magnetocardiographic Parameters – An Intrasubject Analysis
Elad L, Achenbach S, Pohle K, Daniel WG, Klinghammer L

E045 Automated parameter estimation in magnetocardiographic measurements
Kürsten R, Steinhoff U, Koch H, Zabel M, Kühl U, Schultheiss HP

E047 Assessing ischemic heart disease with multi-current-vector diagram and integral value of JT interval in magnetocardiography before and after coronary revascularization
Watanabe S, On K, Yamada S, Kuga K, Takeyasu N, Miyashita T, Ogata K, Kandori A, Yamaguchi I

E049 Magnetocardiogram is a useful noninvasive diagnostic tool to determine intra atrial and His Purkinje conduction time
Yamada S, Keisuke Kuga K, On K, Jahangir A, Tsukada K, Miyashita T, Yamaguchi I

E051 Magnetocardiogram is a useful noninvasive tool to identify patients at high risk of atrial fibrillation and heart failure hospitalization
Yamada S, Tsukada K, Miyashita T, Jahangir A, Ishizu T, On K, Kuga K, Watanabe S, Miyauchi T, Yamaguchi I

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E053 The Analysis of Phase-Sorted Single Trials at Peak Alpha Frequency
Naruse Y, Matani A, Miyawaki Y, Hayakawa T, Fujimaki N

E055 Generating mechanisms of MEG and EEG signals at the single cell level in hippocampus and neocortex revealed by computational models
Murakami S, Okada YC

E057 Characteristics of the Fast Oscillations in Evoked MEG from Hippocampal CA3 and CA1 Slices
Zhang T, Okada Y

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E059 Enhanced neural responses correlated with perceptual binding of color and motion
Amano K, Nishida S, Takeda T

E061 Pre-Surgical MEG Mapping Of Visual Hemifield Response Prior To Tumor Resection: Outcome Study
Grover KM, Bowyer SM, Thomas AJ, Rock J, Rosenblum ML, Skarf B, Mason K, Moran JE, Barkley GL

E063 Spatio-Temporal Brain Activity in Mental Rotation
Kawamichi H, Kikuchi Y, Ueno S, Yoshizawa S

E065 Fast responses in human fusiform face area
Liu L, Ioannides AA

E067 Modulation of neuromagnetic oscillatory activity during the observation of oro-facial movements
Muthukumaraswamy SD, Johnson BW, Gaetz W, Cheyne D

E069 Magnetic Cortical Activities Associated with Linear and Circular Vection
Nakagawa S, Watanabe H, Yamaguchi M, Nishiike S, Tonoike M

E071 A Study of Relationship between Multifocal VEF Responses and Binocular Disparity
Owaki T, Takeda T

E073 Visual Brain Activities Change during Discrimination of the Differences in Color or Shape of Colored Letters
Ozaki I, Jin CY, Suzuki Y

E075 Investigation of visual information pathways of color motion using MEG and binocular rivalry stimuli
Shinozaki T, Takeda T

E077 Early visual responses to upright and inverted faces
Susac A, Ilmoniemi RJ, Supek S

E079 Magnetoencephalographic (MEG) Correlates of Eye Blinking
Bardouille T, Picton T

E081 Differential activation of visual areas V1 and V5 by pattern reversal stimulation
Barnikol U, Dammers J, Fieseler T, Boers F, Muren A, Wuttich S, Mohlberg H, Hesselmann G, Amunts K, Zilles K, Niedeggen M, Tass PA

E083 Activation of MT/V5 and Inferior Parietal Lobe During the Detection of Changes in the Direction of Coherent Motion Stimuli
Cheyne D, Martinez-Trujillo JC, Simine E, Gaetz W, Tsotsos JK

E085 Problems in achieving Simultaneous Eye Tracking using Infrared-oculography (IROG), Electro-oculography (EOG) and MEG
Haruhanna K, Burbank M, Maruyama M, Hironaga N, Liu L, Ioannides AA

A087 Inversion and contrast-reversal effects on early face processing assessed by MEG
Itier RJ, Herdman AT, Picton TW, Taylor MJ

A089 Event related field P2m derived from visual attention to the hemi-space
Maeno T, Gjini K, Iramina K, Eto F, Ueno S

A091 MEG source analysis of early visual responses: Comparison of equivalent current dipoles and noise-normalized minimum norm estimates
Meeren HKM, Ahlfors SP, Hämäläinen MS, De Gelder BLMF, Hadjikhani N

A093 Human V5 response of Glaucoma Patients Demonstrated by MEG
Nakamura H, Nagamine T, Kashii S, Matsubayashi J, Matsui Y, Honda Y, Fukuyama H, Shibasaki H

A095 Recognition of Facial Emotion
Nakamura A, Maess B, Knösche TR, Friederici AD

A097 Neuromagnetic Correlates of Object Visibility
Smeets SI, Schwarzbach J

A103 New insights into the nature of evoked responses
Tass PA, Barnikol U, Fieseler T, Dammers J, Boers F, Muren A, Wuttich S, Amunts K, Zilles K, Niedeggen M

A105 Saccadic eye movement modulation of foveal word processing: A MEG study
Temereanca S, Reid KA, Hämäläinen MS, Dale AM, Halgren E

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A107 Accelerated BEM for the Calculation of the potential and magnetic fields
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A109 Simulation of Spreading Cortical Depression (SCD) Wavefront on the Surface of Human Brain
Durgut K, Baysal U, Haueisen J

A111 Comparison of Boundary Element Method and Lead Field Method Performance in the Solution of the Inverse Problem
Marzetti L, Nolte G, DeCesaris I, DeMelis M, Erné SN

A113 Effect of Model Complexity on EEG Source Localizations
Ramon C, Schimpf PH, Haueisen J

A115 Computation of Potential and Magnetic Field Distribution using Finite Element Method (FEM) employing Whitney elements
Tanzer IO, Järvenpää S, Nenonen J, Somersalo E

A117 Forward solution ambiguity for fMEG model
Vrba J, Robinson SE, McCubbin J

A119 Algebraic MultiGrid with Multiple Right-Hand Side Treatment for an Efficient Computation of EEG and MEG Lead Field Bases
Wolters CH, Anwander A, Reitzinger S, Haase G

A121 Effects of head curvature and depth of cortex on spatial resolution of scalp EEG
Freeman WJ, Ramon C, Holmes MD

A123 Modeling a Direct Effect of Neural Activity on MRI
Heller L, George JS, Schmidt DM

A125 Semi-analytic forward calculation for EEG in multi-shell realistic volume conductors based on the lead field theorem
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A127 Electro-Magnetic Source Imaging with Realistic Head Models Using the Genetic Algorithms
Akalin-Acar Z, Gençer NG

A129 Maximum Likelihood Dipole Fitting in Spatially Colored Noise
Baryshnikov BV, Van Veen BD, Wakai RT

A131 NUTMEG: A neuromagnetic source reconstruction Toolbox
Dalal SS, Nagarajan SS, Agrawal V, Zumer JM, Sekihara K

A133 Local Lipschitz stability for an inverse EEG problem
El Badia A

A135 Estimation Method of the Number of Sources for MEG based on Spatio-Temporal Information
Hoshino D, Kuriyama H, Shirai K, Nakamura T, Kamiyama H, Ono Y, Ishiyama A, Kasai N, Tonoike M

A137 Anatomically Constrained Dipole Fit: MEG Multi-dipole Localization Using Cortical Surface Scanning
Im CH, Jung HK, Lee YH, Fujimaki N

A139 Spatial-temporal Bayesian Inference Analysis for MEG
Jun SC, George JS, Paré-Blagoev J, Plis SM, Ranken DM, Schmidt DM, Wood CC

A141 Improved Adaptive Beamformer Method for Multi-Sources with Temporal Correlation
Kuriyama H, Hoshino D, Shirai K, Nakamura T, Kamiyama H, Ono Y, Ishiyama A, Kasai N, Tonoike M

A143 The impact of regularization on MEG minimum-norm estimates
Lin FH, Witzel T, Ahlfors SP, Stufflebeam SM, Belliveau JW, Hämäläinen MS

A147 Iterative estimation of in vivo tissue conductivity distribution by using extended Kalman filter
Baysal U, Haueisen J, Sengul G

A149 Simultaneous analysis of MEG data sets in multiple conditions
Bijma F, de Munck JC, Nehorai A, Huizenga HM, Heethaar RM

A151 Effects of Correlated Brain Activity on Performance of Minimum-Variance Beamformer and Equivalent Current Dipole Localization Methods
Cheyne D, Bakhtazad L, Gaetz W

A153 Modified Beamformers for Coherent Source Region Suppression
Dalal SS, Zumer JM, Sekihara K, Nagarajan SS

A155 Quantification of MEG's source reconstruction accuracy of deep and shallow sources using dense and sparse grid calculations
Dammers J, Fieseler T, Hadamschek V, Tass PA

F159 Application of bootstrap methods to assess statistical significance of dipole reconstructions from MEG data
Darvas F, Leahy RM

F163 Studying effective connectivity with a neural mass model of MEG/EEG evoked responses
David O, Harrison L, Kilner J, Penny W, Friston KJ

F167 Dipole Localization Stability for Model Selection
Fuchs M, Wagner M, Kastner J

F169 Reconstruction of current source distributions in the human brain: A comparative study of inverse algorithms with regard to MEG data
Hadamschek V, Dammers J, Fieseler T, Dolan K, Tass PA

F173 Commonalities and Differences among Vectorized Beamformers
Huang MX, Shih JJ, Lee RR, Harrington DL, Thoma RJ, Weisend MP, Hanlon F, Paulson KM, Li T, Martin K, Miller GA, Canive JM

F175 Localization of Independent Components in MEG Data
Hild II KE, Sahani M, Attias H, Nagarajan SS

F179 Model of extended curved current source
Jazbinsek V, Trontelj Z

F181 Objective Evaluation of Inverse Methods in MEG
Kucukaltun-Yildirim E, Pantazis D, Leahy RM

F183 Source Space Reduction for MEG Source Imaging Using Cortical Surface Inflation
Lee C, Im CH, Jung HK, Lee YH, Kuriki S

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E002 Sound-Location Representations in the Posterior Human Auditory Cortex
Ahveninen J, Jääskeläinen IP, Raij T, Bonmassar G, Devore S, Hämäläinen MS, Levänen S, Lin FH, Sams M, Shinn-Cunningham BG, Belliveau JW

E004 Effect of Vision-Based Prediction on Auditory Information Processing
Aoyama A, Endo H, Honda S, Takeda T

E006 Auditory memory trace encodes polyphonic melody
Fujioka T, Trainor LJ, Ross B, Kakigi R, Picton TW, Pantev C

E008 Analysis of modulation of MEG during auditory attention to frequency by frequency-tagged neuromagnetic responses
Hasegawa T, Owaki T, Amano K, Takeda T

E010 The Influence of Sleepiness on the Auditory Evoked Magnetic Field
Hatsusaka N, Higuchi M

E012 Neuromagnetic responses associated with perceptual segregation of pitch
Johnson BW, Muthukumaraswamy SD, Hautus MJ, Gaetz WC, Cheyne DO

E014 Enhanced P2m Responses to Musical Tones in Musicians
Kanda S, Hirata Y, Kuriki S

E016 Auditory neural activity during period of vertigo induced by cold caloric stimulation: magneto-encephalographic study
Kandori A, Oe H, Miyashita K, Naritomi H, Ogata K, Miyashita T, Tsukada K

E018 A New Dynamical Approach to Auditory Evoked Magnetic Field by Blind Identification
Kishida K, Ohi Y, Tonoike M, Iwaki S

E020 Cortical Activity Elicited By Isolated Vowels And Diphthongs
Mäkelä AM, Alku P, May PJC, Mäkinen V, Tiitinen H

E022 The Auditory N100 Response Reflects Glides In Speech Fundamental Frequency
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E024 Auditory Evoked Responses Are Additive to Brain Oscillations
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E026 Spectral Characterization of Ongoing and Auditory Event-Related Brain Processes
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E028 The MMN Is a Derivative of the Auditory N100 Response
May PJC, Tiitinen H

E030 Auditory Scene Analysis and Sensory Memory: The Role of the Auditory N100
May PJC, Tiitinen H

E032 Plasticity of N100m enhancement in patients with acute inner-ear hearing impairment
Morita T, Hiraumi H, Fujiki N, Naito Y, Nagamine T, Ito J

E034 Phonetic memory representation for vowels as revealed by the mismatch negativity responses
Oiwa S, Gunji A, Koyama S, Tajima K, Kato H, Kakigi R

E036 Lateral inhibition and stimulus specific adaptation of the human auditory cortex
Okamoto H, Ross B, Gunji A, Kakigi R, Kubo T, Pantev C

E038 Delayed Cortical Auditory Processing in Down syndrome
Pekkonen E, Osipova D, Sauna-Aho O, Arvio M

E040 The effect of attention on the auditory steady-state response
Ross B, Herdman A, Picton TW, Hillyard SA, Pantev C

E042 Auditory cortex responses to the transition from monophonic to pseudo-stereo sound
Ross B, Wollbrink A, Herdman A, Pantev C

E044 Stimulus induced reset of the 40-Hz auditory steady-state response
Ross B, Herdman AT, Pantev C

E046 Effects of Spectral Complexity of Tones on Evoked Auditory Responses in Musicians and Nonmusicians
Shahin A, Ross B, Trainor LJ, Pantev C, Roberts LE

E048 An MEG study of directional categorization of frequency-modulated tones
Simserides C, König R, Scheich H

E050 Neuromagnetic Auditory Responses of the Human Brain Evoked by Bandpass Noise
Soeta Y, Nakagawa S, Tonoike M

E052 Auditory Evoked Fields in Relation to Binaural Cross-correlation
Soeta Y, Hotehama T, Nakagawa S, Tonoike M, Ando Y

E054 Classification of N100m Responses in Auditory Evoked Magnetic Field on Hemispheric Difference
Suzuka Y, Higuchi M, Yamada K, Hatsusaka N, Tomoda K

E056 Behavioral Detection of Spatial Stimuli Is Reflected in Auditory Cortical Dynamics
Tiitinen H, Palomäki KJ, Mäkinen V, May PJC, Alku P

E058 Periodic Glottal Excitation and Formant Frequencies in the Perception of Vowels
Tiitinen H, Mäkelä AM, Mäkinen V, May PJC, Alku P

E060 MEG measurement of event-related brain activity evoked by emotional prosody recognition
Yagura H, Tonoike M, Yamaguchi M, Nakagawa S, Sutani K, Ogino S

E062 Dynamic neuromagnetic responses to auditory motion: A novel index of attention
Xiang J, Holowka S, Ishii R, Wilson D, Chuang S

E064 Distinct Pathways Involved in Sound Localisation of Still and Oscillating Acoustic Stimuli: A Human fMRI/MEG Study
Brunetti M, Belardinelli P, Del Gratta C, Pizzella V, Della Penna S, Ferretti A, Caulo M, Cianflone F, Romani GL, Olivetti Belardinelli M

E066 Short-term Habituation of Neuromagnetic Responses to a Short Click Train
Carver FW, Feeney MC, Mitchell-Francis J, Holroyd T, Coppola R

E068 Cortical and Sub cortical processing of binaural pitch – An MEG study
Chait M, Poeppel D, Simon J

E070 Dynamic Cortical Activation During Phoneme Discrimination
Frye RE, McGraw-Fisher J, Liederman J, Dale AM, Halgren E

E072 Neuromagnetic correlates of auditory stream segregation
Gutschalk A, Micheyl C, Scherg M, Rupp A, Oxenham AJ

E074 Enhanced Response to a Mistuned Sound in Human Auditory Cortex
Hiraumi H, Naito Y, Nagamine T, Fukuyama H, Ito J

E076 Auditory evoked responses in human newborns recorded by MEG and EEG
Holst M, Eswaran H, Lowery CL, Murphy P, Preissl H

E078 Gamma activity revealed in humans during working memory retention of virtual pitches
Jensen O, Schulte M, van Dijk H

E080 Neuromagnetic Evaluation of Binaural Unmasking in Normal Subjects and Patients with Comatose Survivors After Severe Head Injury
Kanno A, Nakasato N, Kawase T, Sasaki T, Nagamine H, Fujiwara S

E082 Language MEG Study of Phonological Contrasts
Kazanina N, Phillips C

E084 Neuromagnetic responses to native and non-native speech sounds in Japanese speakers
Koyama S, Gunji A, Akahane-Yamda R, Kakigi R

E086 Neuromagnetic activation mirrors auditory perceptual asymmetry
Kult A, Pressnitzer D, Supek S, Rupp A

A088 Trial-by-trial habituation in the primary auditory cortex
Leuthold AC, Wilson TW

A090 Preattentive memory-based comparison of pitch: An MEG study of the Mismatch negativity to pitch changes
Maess B, Jacobsen T, Schröger E

A092 Dipole Modeling of the Maturation of the Auditory Evoked Field
Maharajh K, Rojas D, Teale P, Kleman MR, Reite M

A094 The Deutsch illusion: neuromagnetic correlates of stream segregation by pitch and space
Mathiak K, Menning H, Hertrich I, Ackermann H

A096 Auditory differential processing persist during stage 2 sleep in adults: simultaneous recordings of electroencephalography and magnetoencephalography
Matsubayashi J, Imai M, Nagamine T, Shibasaki H, Fukuyama H

A098 Training induced plasticity in auditory cortex
Nagarajan SS, McGonigle DJ, Sekihara K, Hairston I

A102 Temporal resolution for bone-conducted ultrasonic perception assessed by mismatch filed (MMF)
Nakagawa S, Takegata R, Tonoike M

A104 Dipole Source Modeling of the AEF in Pediatric Environments: Effects of Head Size, SNR and Sensor Coverage
Pang EW, Bakhtazad L, Gaetz W, Cheyne D

A106 Development of the 40-Hz steady state auditory evoked magnetic field
Rojas DC, Teale P, Ramos M, Benkers TL, Carlson JP, Reite ML

A108 Auditory Cortex Dysfunction And Plastic Changes In Tinnitus: A MEG Study
Santiuste M, Bathal B, Iglesias MC, Quesney LF, Amo C, Fernández A, Maestú F, Poch J, Ortiz T

A110 Tonotopy, tonochrony and pitch mapping in Heschl's gyrus of musicians
Schneider P, Scherg M, Dosch HG, Specht HJ, Rupp A

A112 Integration of near and far, auditory and visual stimuli
Stephen JM, Ranken D, Aine CJ, Hart B, Adair J, Knoefel J

A114 MEG responses form the frontal regions using a whole head SQUID system
Takeuchi F, Kamada K, Kuriki S, Kawaguchi H

A116 MEG Steady State Response to Broadband Sounds
Wang Y, Ahmar N, Xiang J, Poeppel D, Simon JZ

A118 Altered representation of the auditory cortex in tinnitus patients
Wienbruch C, Paul I, Roberts L, Weisz N, Elbert T

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A120 ICA Methods for MEG Imaging
Moran JE, Tepley N

A122 Intersubject Spatial ICA of Temporally Independent Neuromagnetic Sources and their Time-Frequency Dynamics
Ramirez RR, Moran KA, Kronberg E, Ribary U, Llinás RR

A124 Influence of Head Models on MEG Source Localizations
Ramon C, Haueisen J, Schimpf PH

A126 MUSIC Seeded Multi-Dipole MEG Modeling Using the Cortical Start Spatio-Temporal Modeling Procedure
Ranken DM, Stephen JM, George JS

A128 Mean Squared Error Performance Prediction of Linearly Constrained Minimum Variance Source Localization
Richmond CD, Van Veen BD, Limpiti T

A130 Localization of Event-Related Activity by SAM(erf)
Robinson SE

A132 Bootstrap Investigation of Linearly Constrained Minimum Variance Localization in Subspaces
Rodriguez-Rivera A, Van Veen BD, Wakai RT

A134 Computationally Efficient Implementation of Standardized Low Resolution Electromagnetic Tomography for Numeric Head Models
Schimpf PH, Liu H, Ramon C, Haueisen J

A136 Balancing Resolution and Localization Performance with a Modified sLORETA / FOCUSS algorithm
Schimpf PH, Liu H, Haueisen J, Ramon C

A138 STR: A new Spatio-Temporal Approach for Accurate and Efficient Current Density Reconstruction
Schmitt U, Wolters CH, Anwander A, Knösche TR

A140 Effective Magnetic Dipole Localization for Magnetocardiography
Shulga SN, Korsun N, Bakharev A, Maluskin AV

A142 Non-Parametric Statistical Thresholding for Spatial-Filter Source Reconstruction Images
Sekihara K, Sahani M, Nagarajan SS

A146 Estimation Of Human Head Tissue Conductivities by Using in vivo E/MEG Data and Comparison of Three Different Estimation Algorithm Results
Sengul G, Baysal U, Haueisen J

A148 A Two-objective Hybrid Algorithm for Source Localization in MEG
Sequeira C, Sánchez-Quesada F, Sancho M, Ortiz T

A150 How many channels are needed for MEG?
Vrba J, Robinson SE, McCubbin J

A152 Line and Surface Source Estimation with Magnetoencephalography
Yetik I, Nehorai A, Muravchik CH, Haueisen J

A154 Linearly Constrained Minimum Variance Source Imaging using Multiresolution Cortical Bases
Limpiti T, Van Veen BD, Nowak RD, Wakai RT

F160 A Semi-Parametric Method for Source Localization using Local Basis Expansions
Maniar H, Polyakov A, Mitra PP

F166 Graphical Models for Electromagnetic Source Imaging
Nagarajan SS, Sahani M, Sekihara K, Attias H

F168 Detecting and localizing brain connectivity free of artifacts from volume conduction exemplified for MEG data of human alpha rhythm
Nolte G, Holroyd T, Carver F, Coppola R, Hallett M

F170 Influence of forward method and head model selection on localization accuracy in EEG/MEG inverse problem
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F172 Performance of an MEG Adaptive Beamformer Technique in the Presence of Additive Low-Rank Interference
Sekihara K, Nagarajan SS, Poeppel D, Marantz A

F174 Asymptotic SNR of Scalar and Vector Minimum-Variance Beamformers for Neuromagnetic Source Reconstruction
Sekihara K, Nagarajan SS, Poeppel D, Marantz A

F176 Comparison between Minimum-Variance Spatial filter and sLORETA
Sekihara K, Sahani M, Nagarajan SS

F178 Hierarchical Variational Bayesian Method for MEG
Sato M, Yoshioka T, Kajiwara S, Toyama K, Goda N, Doya K, Kawato M

F180 Computation of MEG in an Anisotropic Volume Conductor Using FEM Employing Whitney Elements
Tanzer IO, Nenonen J, Järvenpää S, Somersalo E

F182 Fidelity-Linearity Optimization for Bioelectromagnetic Inverse Problem
Terazono Y, Matani A

F184 Evaluation of sLORETA for MEG Data in the Presence of Noise and Multiple Sources
Wagner M, Fuchs M, Kastner J

F186 An analysis of MEG data by Hierarchical Variational Bayesian Method
Yoshioka T, Sato M, Kajiwara S, Toyama K, Goda N, Doya K, Kawato M

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E001 A Novel SQUID Vector Gradiometer for Biomagnetic Measurement
Adachi Y, Kawai J, Uehara G, Miyatmoto M, Kawabata S, Ohkubo H, Fukuoka Y, Komori H, Kado H

E003 Low-cost 7-channel magnetocardiographic system for unshielded environment
Budnyk M, Voytovych I, Sosnytskyy V, Minov Yu, Sutkovyy P, Primin M, Nedayvoda I, Vasiliev V

E005 A 500 channel MEG system
Della Penna S, Del Gratta C, Cianflone F, Erné SN, Granata C, Pizzella V, Russo M, Romani GL

E007 Simultaneously detected biomagnetic signals and NMR
Espy MA, Volegov PL, Matlachov AN, George JS, Kraus RH Jr.

E009 The New SQUID Biosusceptometer at Oakland:First Year of Experience
Fung EB, Fischer R, Fagaly RL, Pakbaz Z, Vichinsky E, Starr TN, Ewing T, Paulson DN, Hassenzahl WV, Harmatz P

E011 Active Magnetic Compensation Composed of Shielding Panels
Kato K, Yamazaki K, Sato T, Haga A, Okitsu T, Muramatsu K, Ueda T, Kobayashi K, Yoshizawa M

E013 Real-Time MCG Mapping in the 36-Channel Magnetocardiograph
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E015 A 62-channel MCG System Measuring Tangential Field Components
Lee YH, Kim K, Kim JM, Kwon H, Park YK

E017 Total Information of Multichannel MEG Sensor Arrays
Nenonen J, Kajola M, Simola J, Ahonen A

E019 Visualization of cardiac electrical current using 32-channel high temperature superconducting quantum interference device
Nomura M, Nakaya Y, Ito S, Itozaki H

E021 Whole-head SQUID System in a Superconducting Magnetic Shield
Ohta H, Matsui T, Uchikawa Y

E023 Calibration of a Vector-MEG Helmet System
Pasquarelli A, DeMelis M, Marzetti L, Erné SN

E025 A Sensor Configuration for a 304 SQUID Vector Magnetometer
Schnabel A, Burghoff M, Hartwig S, Petsche F, Steinhoff U, Drung D, Koch H

E027 Characteristics of a 440CH MEG System with Vector Sensors
Takeda T, Owaki T, Haruta Y, Uehara G

E029 A Liquid Helium Circulation System
Takeda T, Uchida A

E031 Active Magnetic Shield controlled by algorithms without Cross-interference
Ueda T, Yamazaki K, Takenaka M, Sato T, Haga A

E033 Dynamical MCG mapping with an atomic vapor magnetometer
Weis A, Wynands R, Bison G

E035 Continuous Head-Localization and Data Correction in a Whole-Cortex MEG Sensor
Wilson HS

E037 MCG Measurement in the Environment of Active Magnetic Shield
Yamazaki K, Kato K, Kobayashi K, Igarashi A, Sato T, Haga A, Kasai N

E039 High T_c SQUID Magnetocardiography imaging system
Yang HC, Hung SY, Wu CH, Chen CC, Hsu SJ, Liao SH, Horng HE

E041 Mobile Magnetocardiography in an Unshielded Truck
Awolin B, Chaykovsky I, Hugenholtz PG

E043 SQUID vs. Optically Pumped Magnetometer: a comparison of system performance
Bison G, Pasquarelli A,Weis A, Erné SN

E045 Headshape digitization using an ultrasound 3D acquisition system
Boers F, Dammers J, Fieseler T, Muren A, Tass PA

E047 Discrimination of multiple sources using a SQUID vector magnetometer
Burghoff M, Schnabel A, Drung D, Thiel F, Knappe-Grüneberg S, Hartwig S, Kosch O, Trahms L, Koch H

E049 On-site Measurement of the Torso Surface for Magnetocardiographic Source Imaging
Jeng JT, Hsu CL ,Wang JC, Yang HC, Hung SY, Horng HE, Liao SH

E051 Hyperpolarized ^{3}He noble gas for nuclear magnetic resonance imaging
Liao SH, Chou CH, Horng HE, Yang HC

E053 Instrumentation for Simultaneous Detection of Biomagnetic and Nuclear Magnetic Resonance Signals in Microtesla Magnetic Fields
Matlachov AN, Volegov PL, Espy MA, George JS, Kraus RH Jr.

E055 Advanced electronics for the CTF 275 MEG system
McCubbin J, Vrba J, Spear P, McKenzie D, Willis R, Loewen R, Robinson SE, Fife AA

E057 SQUID-Detected in Vivo MRI in Microtesla Magnetic Fields
Myers WR, Mößle M, Lee SK, Kelso N, Pines A, Clarke J

E059 Noise Reduction for the Vector-MCG-Device ARGOS 200
Nowak H, Hilgenfeld B, Liehr M, Rossi R, Trebeschi A, Haueisen J

E061 Evaluation of SSS for a 76-channel MEG instrument
Nurminen J, Okada Y

E063 BabySQUID: A High-Resolution, Mobile, Multichannel MEG System for Neonatal Brain Assessment
Okada Y, Atwood C, Pratt K, Paulson D

E065 Argos 500: Operation of a Helmet Vector-MEG
Pasquarelli A, Rossi R, DeMelis M, Marzetti L, Erné SN

E067 Magnetoencephalography with an atomic magnetometer
Romalis MV, Ben-Amar Baranga A, Hoffman DE

E069 Active Shielding Method for an MEG device
Simola J, Taulu S, Parkkonen L, Kajola M

E071 Development of Multi-channel Compact HTS MCG System Using Transversal Magnetically Shielded Cylinder
Suzuki D, Tsukamoto A, Kandori A, Ogata K, Miyashita T, Seki Y, Yokosawa K

E073 Study on Recovery Effect of Pulsed Magnetic Stimulation to a Fatigued Muscle
Yunokuchi K, Gang W, Hosaka H

P5-2 Multimodal imaging

E075 SII topography for electric non painful and painful stimuli: an fMRI study
Feretti A, Del Gratta C, Babiloni C, Caulo M, Arienzo D, Tartaro A, Pizzella V, Rossini PM, Romani GL

E077 Dynamics of sexual arousal in man: an fMRI study
Ferretti A, Caulo M, Del Gratta C, Merla A, Montorsi F, Pizzella V, Pompa P, Rigatti P, Rossini PM, Salonia A, Tartaro A, Romani GL

E079 fMRI constrained MEG Source Imaging and Consideration of fMRI Invisible Sources
Im CH, Jung HK, Fujimaki N

E081 Spatiotemporal neural activities during 3-D structure perception from motion
Iwaki S, Bonmassar G, Belliveau JW

E083 Versatile 3D Optical Marker Localizer for Multimodal Integration
Lindenthal H, Müller HP, Pasquarelli A, Erné SN

E085 Regional Resolving Power of Combined MEG/EEG
Pflieger ME, Greenblatt RE, Kirkish J

A087 An integrative MEG- fMRI study of the primary somatosensory cortex using cross-modal correspondence analysis
Schulz M, Chau W, Graham SJ, McIntosh AR, Ross B, Ishii R, Pantev C

A089 Magnetic resonance imaging of mean values and directional anisotropy of electrical conductivity in the human brain
Sekino M, Inoue Y, Ueno S

A091 The Analysis of Functional MRI with Shannon and Tsallis Entropy
Tedeschi W, de Araujo DB, Müller HP, Santos AC, Erné SN, Baffa O

A093 Interaction latency during during auditory-visual stimulus onset asynchrony (SOA) in humans
Zhi X, Saito Y

A095 MEG and EEG show different sensitivity to myogenic artifacts
Zimmermann R, Scharein E

A097 Combined MEG and cytoarchitectonic data imaging
Dammers J, Barnikol U, Wuttich S, Boers F, Muren A, Mohlberg H, Amunts K, Zilles K, Tass PA

A103 Multimodal Imaging of Object Recognition
Goldenholz DM, Stufflebeam SM, Vaina LM

A105 A comparison of EEG/fMRI and MEG to study spontaneous variations of the α-rhythm
Gonçalves SI, Pouwels PJW, Schoonhoven R, Kuijer JPA, Maurits NM, Van Someren EJW, Heethaar RM, de Munck JC

A107 A Combined EEG MEG fMRI Study of the Cortical Activities Following Pattern Reversal Visual Stimuli
Perfetti B, Franciotti R, Della Penna S, Pizzella V, Del Gratta C, Ferretti A, Caulo M, Tartaro A, Romani GL, Onofrj M

A109 Multimodal Imaging of Somatosensory Evoked Cortical Activity
Ramon C, Haueisen J, Richards T, Maravilla K

A111 MEG and EEG compared for pain evoked measurements
Sager C, Zimmermann R

A113 Retinotopic Visual Responses to Local Stimuli Measured with MEG/EEG and fMRI
Sharon D, Halgren E, Tootell RBH

A115 Magnetic Source Imaging of interictal spikes compared to SISCOM in presurgical evaluation of epileptic patients
Thyerlei D, Padilla R, Lopez NP, Mamelak AN, Darvas FI, Sutherling WW

A117 Event-related fields/potentials in the basal temporal area evoked by Japanese morphogram and syllabogram. A comparative study of A1 MEG and electrocorticogram
Usui K, Nagamine T, Ikeda A, Matsuhashi M, Matsubayashi J, Inoue Y, Shibasaki H, Fukuyama H

A119 Cortical Organization and Connectivity from Magnetoencephalography (MEG) and Diffusion Tensor Imaging (DTI) Data in Macaque Monkeys and Humans
Zumer JM, Disbrow EA, Henry RG, Berman JI, Krubitzer LA, Hinkley LB, Turner RS, Dalal SS, Sekihara K, Nagarajan SS

P5-3 MEG: Somatosensory

A121 A MEG Study on the Event Related Desynchronisation/Synchronisation of Alpha and Beta Rhythms in Human SI and SII Areas
Della Penna S, Torquati K, Pizzella V, Babiloni C, Franciotti R, Rossini PM, Romani GL

A123 3-D Magnetic Measurement of Neuromagnetic Response of Somatosensory Area to Different Repetition Frequencies
Kim BS, Uchikawa Y, Kobayashi K, Kawakatsu M, Kotani M

A125 Changes in the Finger Cortical Representation in Humans after an Altered Finger Sensory Input: A Magnetoencephalography Study
Stavrinou ML, Pizzella V, Cianflone F, Della Penna S, Torquati K, Franciotti R, Ciancetta L, Bezerianos A, Rossini PM, Romani GL

A127 Frequency specificity in the cortical representation of thumb with respect to little finger: dynamics of regional activation and intra-regional synchronization
Tecchio F, De Lucia M, Salustri C, Zappasodi F, Montuori M, Babiloni C, Bottaccio M, Pietronero L, Pizzella V, Rossini PM

A129 Temporal dynamics of nociceptive and non nociceptive areas in human secondary somatosensory cortex: a MEG study
Torquati K, Pizzella V, Babiloni C, Della Penna S, Ferretti A, Franciotti R, Del Gratta C, Rossini PM, Romani GL

A131 Components of lumbar magnetoneurographic fields after tibial nerve stimulation
Van Leeuwen P, Klein A, Hoormann J, Grönemeyer D

A133 Pre-movement modulation of primary somatosensory cortex preceding self-initiated finger extension
Wasaka T, Hoshiyama M, Kakigi R

A135 Volumetric estimation of functional regions in small children using spatially filtered magnetoencephalography: differentiating thumb from middle finger
Xiang J, Holowka S, Qiao H, Sun B, Chuang S

A137 Cortical representation of dermatomes: MEG-derived maps recorded after tactile stimulation
Castillo EM, Papanicolaou AC

A139 Watching possible and impossible movements of biological stimuli: a MEG study
Costantini M, Galati G, Della Penna S, Pizzella V, Cianflone F, Franciotti R, Romani GL, Aglioti SM

A141 Imaging Cerebellar Activity Using Spatially Filtered Magnetoencephalography
Dockstader CL, Gaetz WC, Tannock R, Cheyne D

A143 Tactile Stimulation Induces Somatotopically Organized Oscillations in SI and MI
Gaetz W, Singh KD, Cheyne D

A147 Identification of the eloquent motor cortex using magnetic resonance axonography, MEG and fMRI
Kamada K, Takeuchi F, Kuriki S, Morita A, Kirino T

A149 Intensity Effect of Human Somatosensory Evoked Fields Following Passive Movement of the Index Finger
Matsuhashi M, Nagamine T, Mima T, Fukuyama H, Shibasaki H

A151 Comparison between the somatosensory evoked magnetic field and potential following passive wrist movements
Mima T, Nagamine T, Yazawa S, Toma K, Kunieda T, Fukuyama H, Shibasaki H

A153 EEG and MEG responses following stimulation of unmyelinated C fibers
Qiu Y, Inui K, Diep T, Xiahong T, Ryusuke Kakigi W

A155 Separation of simultaneously active cortical sources using SOBI
Sauvé K, Llinás R

F159 Participation of Secondary Somatosensory Cortex (SII) in the generation of high frequency rhythms of the brain:
A Magnetoencephalographic study
Stavrinou ML, Della Penna S, Torquati K, Pizzella V, Babiloni C, Franciotti R, Bezerianos A, Rossini PM, Romani GL

F163 Crossmodal cortical interactions in the somatosensory cortex
Takino R, Iguchi Y, Nemoto M, Kimura T, Hashimoto I

F167 Unilaterally Applied Tactile Stimuli in a Frequency Discrimination Task are Represented Bilaterally in Primary Somatosensory Cortex
Tan HRM, Wühle A, Braun C

F169 Effects of temporary ligation of the internal artery on the low- and high-frequency somatic evoked potentials in the swine
Wang Y, Hosler G, Okada YC

P6-1 MEG: Motor and movement disorders

E002 Motor evoked response (MER) measured by MEG utilizing MR-FOCUSS
Arcila-Londono X, Bowyer SM, Mason KM, Moran JE, Tepley N, Barkley GL

E004 Event Related Spectral Perturbations and Coherence in a Simple Audio-Motor Reaction Time Task
Moran KA, Ramirez RR, Jaramillo S, Ribary U, Llinás RR

E006 High Resolution Neuromagnetic Imaging using Minimum-Variance Beamforming Reveals Multiple Generators of Movement-Evoked Fields in Sensorimotor Cortex
Bakhtazad L, Gaetz W, Cheyne D

E008 Impacts of fatigue on synchronization between MEG and EMG
Boonstra TW, Daffertshofer A, Beek PJ

E010 Mapping sensorimotor function in patients with perirolandic lesions: a comprehensive MEG protocol
Castillo EM, Simos PG, Wheless JW, Baumgartner JE, Fitzgerald ME, Papanicolaou AC

E012 Stabilization of bimanual coordination - evidence from phase transitions
Daffertshofer A, Peper CE, Beek PJ

E014 Serial correlations in magneto-encephalographic recordings during voluntary rhythmic movements
Daffertshofer A, Boonstra TW, Beek PJ

E016 Neuromagnetic Imaging of Self-Initiated vs. Visually Cued Movements
Gaetz W, Robaey P, Schacher R, Cheyne D

E018 Tomographic mapping of functional connectivity from magnetoencephalographic recordings
Gross J, Schnitzler A

E020 Temporal Dynamics of Ipsilateral and Contralateral Motor Activity during Voluntary Finger Movement
Huang MX, Harrington DL, Paulson KM, Weisend MP, Lee RR

E022 Spatiotemporal patterns of movement-related fields in stroke patients
Kotani K, Kinomoto Y, Yamada M, Deguchi J, Tonoike M, Horii K, Miyatake S, Kuroiwa K

E024 Visual and Motor Cortex Interactions during a Self Paced Copy Task
Langheim FJP, Leuthold AC, Lewis SM, Georgopoulos AP

E026 The Cerebral Network of Paced Movements
Pollok B, Gross J, Schnitzler A

E028 Cortico-muscular gamma-frequency coherence is correlated with instantaneous target probability
Schoffelen JM, Oostenveld R, Fries P

E030 Pathological oscillatory coupling within the human motor system in different tremor syndromes as revealed by magnetoencephalography
Timmermann L, Gross J, Butz M, Schnitzler A

E032 Applying Inverse Source Reconstruction to Investigate the Mechanisms Underlying Deep Brain Stimulation in the Treatment of Parkinson's Disease
Webb RM, Limousin P, Rothwell JC

P6-2 MEG: Epilepsy

E034 The localization of epileptic activity in the frequency and time domains using a 122-channel biomagnetometer
Anninos P, Kotini A, Adamopoulos A, Pavlidis P, Chourdakis K

E036 Congenital unilateral perisylvian syndrome: An EEG, MEG and MRI study
Camposano S, Kotini A, Hara K, Cole A, Cabello D, Grant PE, Stufflebeam SM, Halgren E

E038 A comparison of the predominant lateralizations of EEG and MEG dipoles in children with intractable epilepsy
Ochi A, Otsubo H, Iida K, Elliott I, Weiss SK, Kutomi T, Nakayama T, Sharma R, Chuang SH, Rutka JT, Carter Snead O

E040 Epileptic discharges of MEG using synthetic aperture magnetometry: Comparison to intracranial epileptic discharges over the epileptogenic zone
Otsubo H, Oishi M, Suyama Y, Iida K, Ochi A, Weiss SK, Xiang J, Gaetz W, Cheyne D, Chuang SH, Rutka JT

E042 Localization of Interictal Spikes using SAM(g2) and Dipole Fit
Robinson SE, Nagarajan SS, Mantle M, Gibbons V Kirsch H

E044 SAM(g2) analysis for detecting spike localization: a comparison with clinical symptoms and ECD analysis in an epileptic patient
Ukai S, Kawaguchi S, Ishii R, Yamamoto M, Ogawa A, Mizuno-Matsumoto Y, Robinson SE, Fujita N, Yoshimine T, Shinosaki K, Takeda M

E046 Effect of Sodium Valproate on Neuromagnetic Responses to Chromatic Flicker: Implication to Photosensitivity
Watanabe K, Sayres R, Shimojo S, Imada T, Nihei K

E048 Automatic localization of epileptic zones using magnetoencephalography
Xiang J, Holowka S, Jiang Y, Qiao H, Sun B, Wilson D, Chuang S

E050 MEG clarified the source of epilepsia partialis continua (EPC) in a patient with previously non-diagnostic EEG, Video-EEG, SPECT and MRI Studies
Bagic A, Balish M, Bonwetsch R, Theodore WH, Holroyd T, Coppola R, Sato S

E052 Differences in MEG/EEG epileptic spike yields explained by regional differences in signal to noise ratios
de Munck JC, de Jongh A, Ossenblok P

E054 Dipole Density Analysis Of Spikes And Slow Waves Improves MEG Resolution In Temporal Lobe Epilepsy
Fernández A, Quesney LF, Amo C, Turrero A, Zuluaga P, Maestú F, Campo P, Ortiz T

E056 Utilization of MEG results to obtain more favorable outcomes in neurosurgical resection in epilepsy patients
Fischer MJM, Scheler G, Stefan H

E058 Neuromagnetic Imaging of Cortical Sensorimotor Oscillations in Pediatric Epilepsy: A Case Report
Gaetz W, Pang EW, Otsubo H, Logan WJ, Elliott I, Weiss SK, Rutka JT, Snead OC, Cheyne D

E060 MEG vs. EEG measurements of right-left propagation of interictal spikes in a patient with partial epilepsy
Hara K, Foxe DM, Camposano S, Grant PE, Halgren E, Stufflebeam SM

E062 Opercular to Interhemispheric Source Distribution of Benign Rolandic Spikes of Childhood
Ishitobi M, Nakasato N, Yamamoto K, Iinuma K

E064 Whole head MEG and EEG in the presurgical evaluation of epilepsy patients: a prospective study
Knake S, Stufflebeam SM, Shiraishi H, Grant PE, Hara K, Witzel T, Carr VA, Foxe DM, Busa E, Hämäläinen MS, Ahlfors SP, Camposano S, Schomer DL, Bromfield EB, Dworetzky BA, Madsen JR, Cosgrove R, Black PL, Bourgeois BF, Larsson PG, Cole AJ, Thiele E, Dale A

E066 Wavelet-based Spectral Spatiotemporal Map Predicts Propagation of Epileptic Spikes
Lin FH, Hara K, Belliveau JW, Halgren E, Stufflebeam SM

E068 Relative merits of MEG for identification of the epileptogenic zone as compared with invasive EEG
Pataraia E, Castillo EM, Simos PG, Billingsley-Marshall R, Fitzgerald M, Sarkari S, Breier J, Papanicolaou AC

E070 Paramount Role Of Cingular Cortex In Generalized Epilepsy: MEG Evidence
Quesney LF, Amo C, Maestú F, Fernández A, Ortiz T

E072 Variation of MEG and EEG Localisations Due to Different Volume Conductors
Scheler G, Fischer M, Hummel C, Genow A, Stefan H

E074 Differentiability of simulated hippocampal, parahippocampal and lateral temporal sources
Stephen JM, Ranken D, Aine CJ, Weisend MP, Shih J

E076 The advantages of interictal MEG compared to EEG in case of Frontal Lobe Epilepsy
Ossenblok P, de Munck JC, Leijten FSS, Drolsbach W, Boon P

E078 Comparison of Single Dipole Model with Adaptive-Beamformer Technique in Magnetoencephalograpy of temporal lobe epilepsy
Tsuyuguchi N, Hattori H, Tsutada T, Shimogawara M, Sekihara K, Hara M

P6-3 MEG: Neurology

E080 Cortical thickness in a case of Congenital Unilateral Perisylvian Syndrome
Kotini A, Camposano S, Hara K, Salat D, Cole A, Stufflebeam SM, Halgren E

E082 Predictor of cognitive deterioration in elderly subjects by auditory-evoked magnetic signal using magnetoencephalography
Oe H, Kandori A, Miyashita K, Ogata K, Miyashita T, Tsukada K, Naritomi H

E084 Neuromagnetic study of auditory processing in Williams syndrome
Pekkonen E, Osipova D, Sauna-Aho O, Arvio M

E086 Age-Related Effects of Priming in Auditory Association Cortex
Aine C, Adair J, Knoefel J, Hudson D, Qualls C, Cobb W, Padilla D, Kovacevic S, Stephen J

F088 Can MEG be used to monitor multiple sclerosis?
Cover KS, Vrenken H, Geurts JJG, van Oosten B, Jelles B, Polman CH, Stam CJ , van Dijk BW

F090 Somatosensory Evoked Magnetic Fields In Mild And Moderate Head Trauma
Lewine JD, Davis J, Pingree J, Thoma R, Burr R, Hill D, Funke M, Jones G, Bigler E

F092 Temporo-Parietal Theta Rhythm in Hemisphere with Carotid Artery Occlusive Disease
Nakasato N, Seki S, Ohtomo S, Kanno A, Shimizu H, Tominaga T

F094 Altered generation of spontaneous neuromagnetic oscillations in Alzheimer’s disease studied with minimum current estimates
Osipova D, Ahveninen J, Jensen O, Ylikoski A, Pekkonen ES

F096 Brain sensorimotor hand area organization and functionality in acute stroke: insights from MEG
Tecchio F, Zappasodi F, Pasqualetti P, Oliviero A, Salustri C, Lupoi D, Ercolani M, Romani GL, Pizzella V, Rossini PM

P6-4 MEG: Psychiatry

F098 Inherited auditory-cortical abnormalities in twins discordant for schizophrenia
Ahveninen J, Jääskeläinen IP, Osipova D, Huttunen MO, Ilmoniemi RJ, Kaprio J, Lönnqvist J, Manninen M, Pakarinen S, Therman S, Näätänen R, Cannon TD

F102 Impoverished Working Memory Network in Schizophrenia
Aine CJ, Hudson D, Bustillo J, Lauriello J, Rowland L, Lenroot R, Kovacevic S, Stephen J

F104 Paroxysmal MEG Activity in Psychiatric Disorders
Amo C, Quesney LF, Maestú F, Fernández A, Ortiz T

F106 Low Modulation of MEG Alpha Band in OCD during Visual Working Memory Task Suggests Abnormally Active “Baseline Mode”
Ciesielski KT, Hämäläinen MS, Lesnik PG, Geller DA, Parks L, Lundy SL, Ahlfors SP

F108 A Specific Hippocampal Deficit in Schizophrenia
Hanlon FM, Weisend MP, Yeo RA, Huang MX, Thoma RJ, Lee RR, Moses SN, Paulson KM, Petropoulos H, Miller GA, Cañive JM

F110 Neuromagnetic Correlates Of Auditory Hallucinations
Lewine JD, Cañive JM, Edgar CJ, Davis JT

F112 Epileptiform Activity And Steroid Responsivity In Autism
Lewine JD, Chez M, R Andrews, Mott S, Riviello J, Funke M, Davis JT, Provencal SL, Hill D

F114 Spectro-temporal neuromagnetic and hemodynamic correlates of impaired P50 suppression in schizophrenia
Mathiak K, Ackermann H, Rapp A, Klose U, Kircher TTJ

F116 MEG Reveals Rapid Temporal Processing Impairment In Autism
Cardy JO, Flagg E, Ferrari P, Roberts W, Roberts TPL

F118 A specific reduction in the sustained 40Hz magnetic field power in schizophrenia
Stufflebeam SM, Witzel T, Lin FH, Foxe DM, Spencer K, McCarley RC

F120 Auditory Sensory Gating Deficit and Cortical Thickness in Schizophrenia
Thoma RJ, Sanchez N, Hanlon FM, Weisend MP, Huang M, Miller GA, Canive JM

P6-5 Transcranial magnetic stimulation

F122 Determination of multi-coil currents considering mutual coupling effects in transcranial magnetic stimulation
Han BH, Jeon CI, Jin SO, Kim KU, Huh Y, Lee SY

F124 Quantitative Results concerning Effects of Repetitive Transcranial Magnetic Stimulation on Mesoscopic Brain Activity
Holzner OT, Schoell E

F126 Optimum Coil Configuration in Magnetic Stimulation Therapy for Urinary Incontinence
Odagaki M, Suga K, Sasaki T, Hosaka H

F128 Numerical Calculation of Eddy Currents in Transcranial Magnetic Stimulation for Psychiatric Treatment
Sekino M, Ueno S

F130 Cutaneous Sensation Block Induced by Navigated Brain Stimulation of SI
Hannula H, Ylioja S, Pertovaara A, Korvenoja A, Ruohonen J, Ilmoniemi RJ, Carlson S

F132 Response Map of Evoked EEG by Transcranial Magnetic Stimulation
Iramina K, Maeno T, Ueno S

F134 Associative plasticity of the motor cortex induced by movement-related transcranial magnetic stimulation (TMS)
Ueki Y, Mima T, Kotb MA, Toma K, Fukuyama H, Nagamine T

Venue

For Biomag 2004, all scientific events, the commercial exhibition, and the welcoming reception will take place at

The Westin Copley Place
10 Huntington Avenue
Boston, MA 02116, USA
Phone: +1 617 262-9600
Fax: +1 617 424-7483

General Sessions will take place on the fourth floor in the North and Center sections of the America Ballroom, while exhibitions will be located in the South section of the America Ballroom.

Posters will be displayed in three locations: The South section of the America Ballroom, the fourth floor foyer, and the South section of the Essex Ballroom on the third floor. The plans of the fourth and third floors are shown on Page 62.

Registration

The registration desk is open in the fourth floor foyer of Westin Copley Place as follows:

Sunday, August 8	10:00 a.m. – 9:00 p.m.
Monday, August 9	7:00 a.m. – 7:00 p.m.
Tuesday, August 10	7:30 a.m. – 7:00 p.m.
Wednesday, August 11	7:30 a.m. – 7:00 p.m.
Thursday, August 12	7:30 a.m. – 12 noon

The on-site registration fees are:

Regular	$550
Student	$225
One-day, August 9 – 11	$150
One-day, August 12	$100

The registration fee includes admission to all scientific sessions and the commercial exhibition, conference materials, refreshments during the breaks, the proceedings book, the Welcome Reception, and the Conference Banquet. The accompanying persons' fee includes the admission to the the Welcome Reception and the Conference Banquet.

The registration desk is accessible by phone through the hotel main telephone number +1 617 262-9600.

Badges

Please note that your name badge is the proof of your registration and it entitles you to participate in all sessions. You are kindly requested to wear your badge at all the times during the conference.

Organizers and staff can be identified by a red ribbon attached to the badge. Session chairs have a black ribbon and exhibitors a green bar at the bottom of their badges.

Presentations

We will provide both Windows and Mac OSX based laptop computers for presentations. Both will be equipped with Microsoft PowerPoint and Adobe Acrobat Reader software for PowerPoint and pdf format presentations, respectively.

We prefer that you use laptops provided by us. Personal laptops can be used under special circumstances. Your presentation can be transferred to our laptops on a CD-ROM, USB memory stick, or through LAN.

If your presentation requires 35-mm slide or overhead projection, please contact the staff immediately, if you haven't done so prior to the meeting.

Evening events

Sunday, August 8, 6:30 pm

Welcoming reception

Westin Copley Place Hotel, America Ballroom

Main sponsor:	Elekta Neuromag Oy
Co-sponsor:	IMEDCO AG

Tuesday, August 10, 7:00 pm

Wine and cheese break

Sponsor:	IMEDCO AG

Historical symposium

Business meeting

Wednesday, August 11, 7:30 pm

Buffet dinner

New England Aquarium, at Central Wharf, Boston
Young Investigator Awards will be presented

Sponsors:	VSM MedTech, Ltd. Vacuumschmelze GmbH & Co. KG

Bus transport from hotel will be provided. The busses leave the hotel at about 7 pm; details will be announced on the conference bulletin board.

Announcement boards

A message board and a bulletin board will be located on the fourth floor, close to the registration desk. We will also post announcements on the web site during the conference.

Medical care

In case of medical emergency or injury please contact the registration desk or hotel switchboard. The phone of Boston City Emergency (fire department, police, ambulance) is 911.

Banks

There are several bank offices and ATMs available close to the conference venue, including the Copley Place and Prudential Center shopping malls.

Coffee and lunch

Free coffee etc. is provided during the breaks between the sessions at the fourth floor foyer. Lunches are not included in the conference fee. There are several restaurants located in the malls adjacent to the conference venue as well as closeby on Boylston and Newbury streets. Some suggestions are included with your conference material.

Internet access

Computers will be available at our internet ‘cyber café’ on the fourth floor. We will also support the use of personal laptops with both cable and wireless connections free of charge on the fourth floor. Details will be provided with the conference material. The conference attendees staying at the conference hotel have a free high-speed internet access in their rooms and some of the lower hotel lobbies.

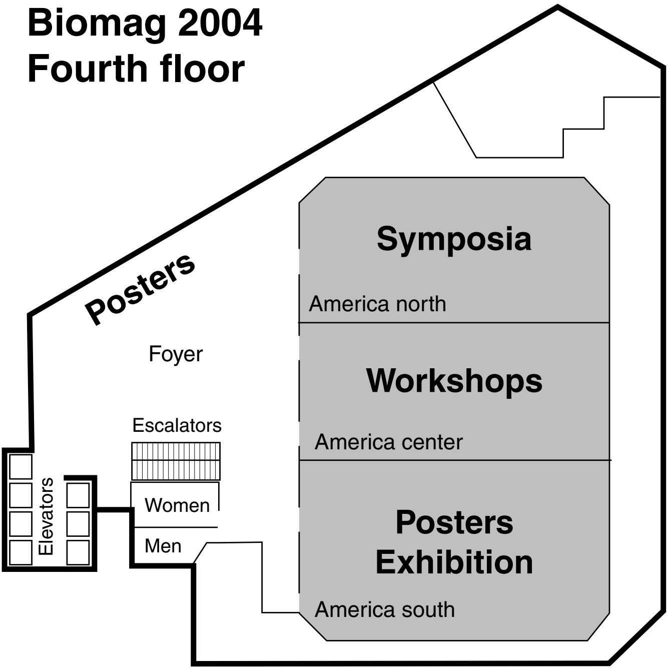
Laboratory tours

Laboratory tours to the Athinoula A. Martinos Center for Biomedical Imaging will be arranged on Thursday afternoon starting at about 1 pm. Detailed information will be provided on the bulletin board.

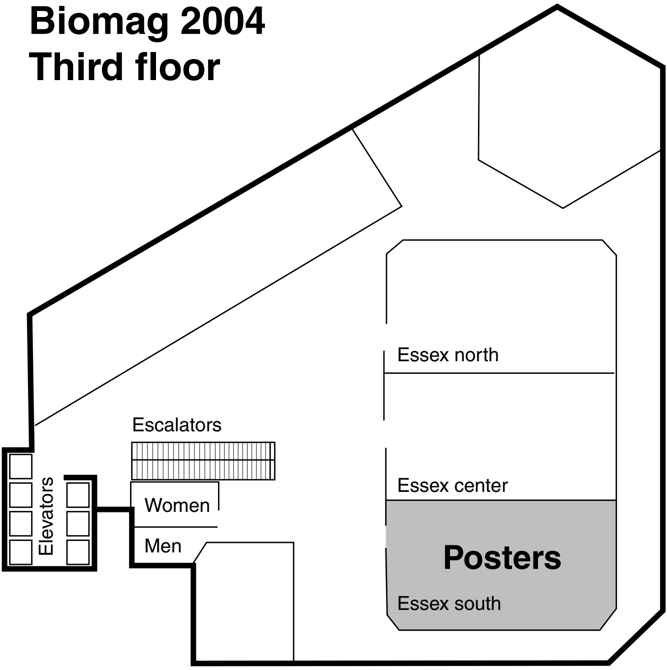
Public transportation

The Boston public transportation system, called the T, is a cost-effective means to move around in the city. The subway stations closest to the conference venue are Copley (Green Line) and Back Bay (Orange Line). A map of the subway lines is included at the back of this booklet for your convenience. For more information, visit the web site of the Massachusetts Bay Transportation Authority at http://www.mbta.com/.

Biomag 2004
Fourth floor



Biomag 2004
Third floor



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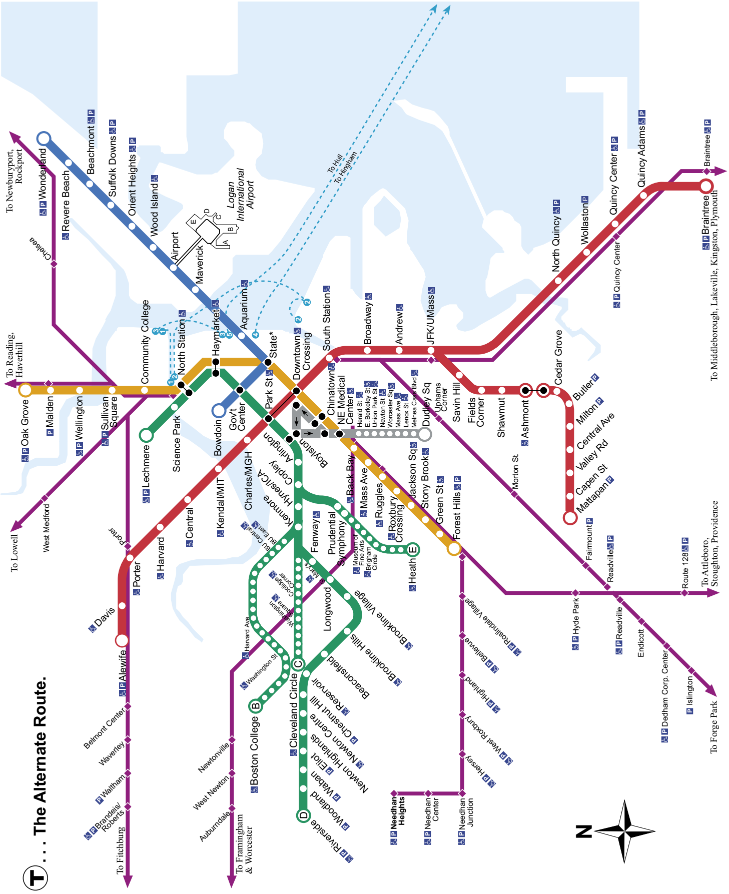

LEGEND

🟥 🟨 🟦 🟩 ⬜ Transit lines & stop

Commuter rail & station

○ ○ ○ ○ ○ Terminal station

●—● Free interchange with other lines

♿ Accessible Station

P Parking

***Chinatown**: Accessible December 2002

***State**: Not accessible for Blue line inbound.

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